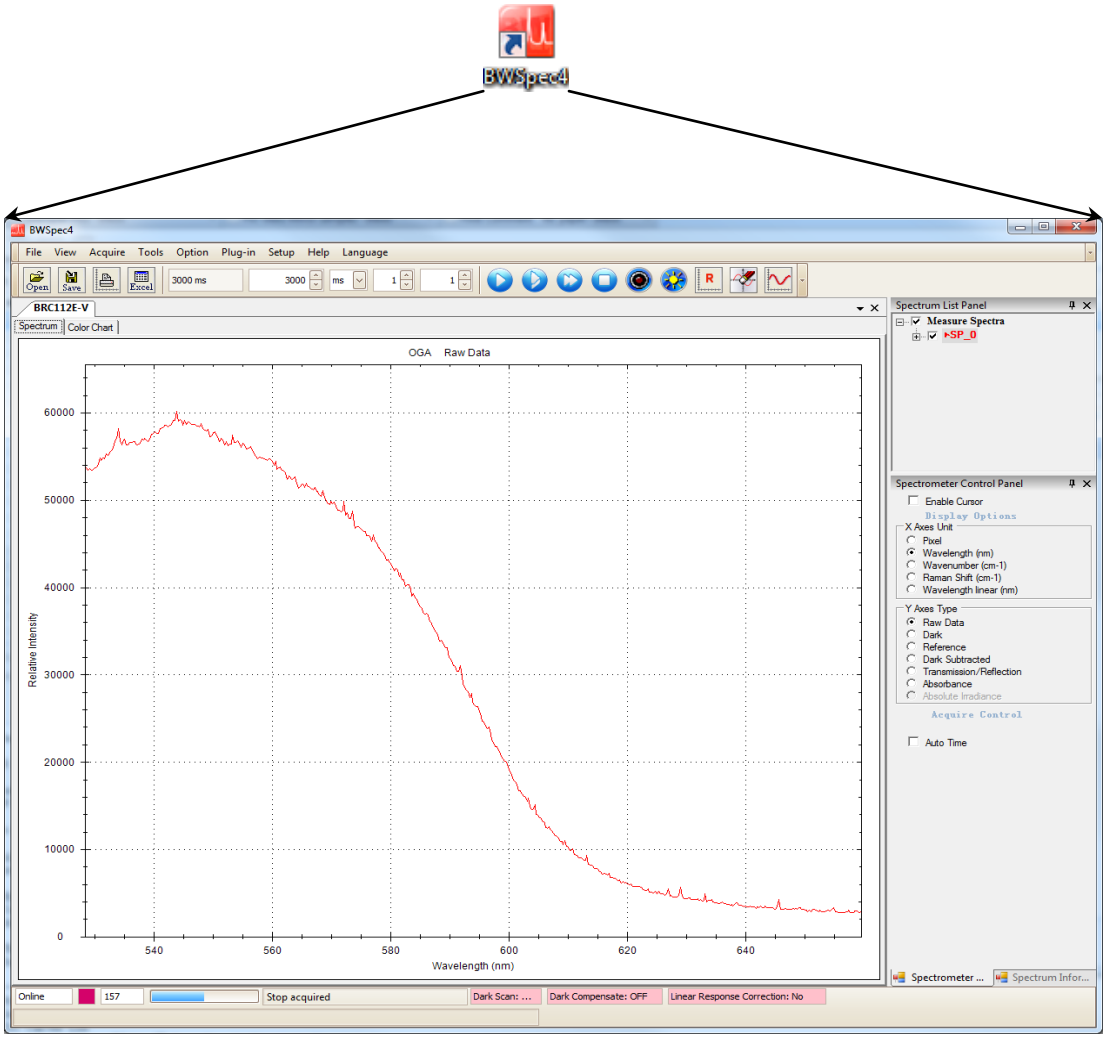

BWSpec™ Software and Hardware Installation Guide

19 Shea Way, Newark, DE 19713 • Tel: (302) 368-7824 • Fax: (302) 368-7830 • Web: www.bwtek.com

Doc#-Rev: 290020239-A (2013/08/12)

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1. Introduction

These instructions will guide you through the software installation of BWSpec 4.02 and the driver/hardware installation of your spectrometer onto your Windows-based computer.

2. Supported Operating Systems

2.1 32-Bit Windows Operating Systems

- Windows 7
- Windows 8

2.2 64-Bit Windows Operating Systems

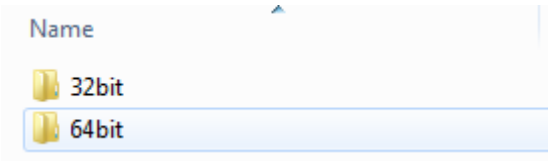
- Windows 7
- Windows 8

Some screenshots below indicate the 32-Bit software and 64-Bit software versions are being installed. The same windows apply for both Bit operating systems versions, except where noted.

3. Software Installation

- Open the BWSpec folder located on your CD or downloaded .zip file.
- Open the Install folder:
- Open the appropriate Folder for your appropriate Bit Operating System:

****If you are not sure if you have a 32-Bit or 64-Bit OS, check with your IT Dept.****



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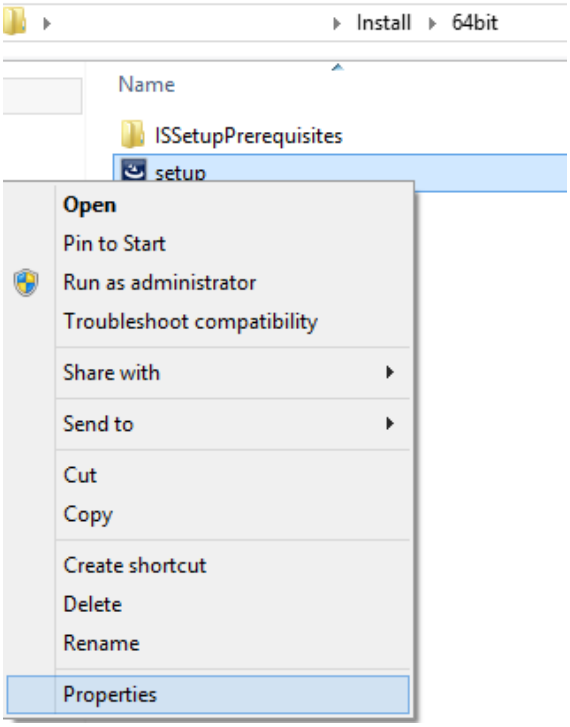
3.1 Running the 'setup.exe' file

Find the section below which matches the Operating System on your computer:
Sections include: Windows 8, Windows 7

3.1.1 Windows 8

- Right Click on the setup file.

Select Properties



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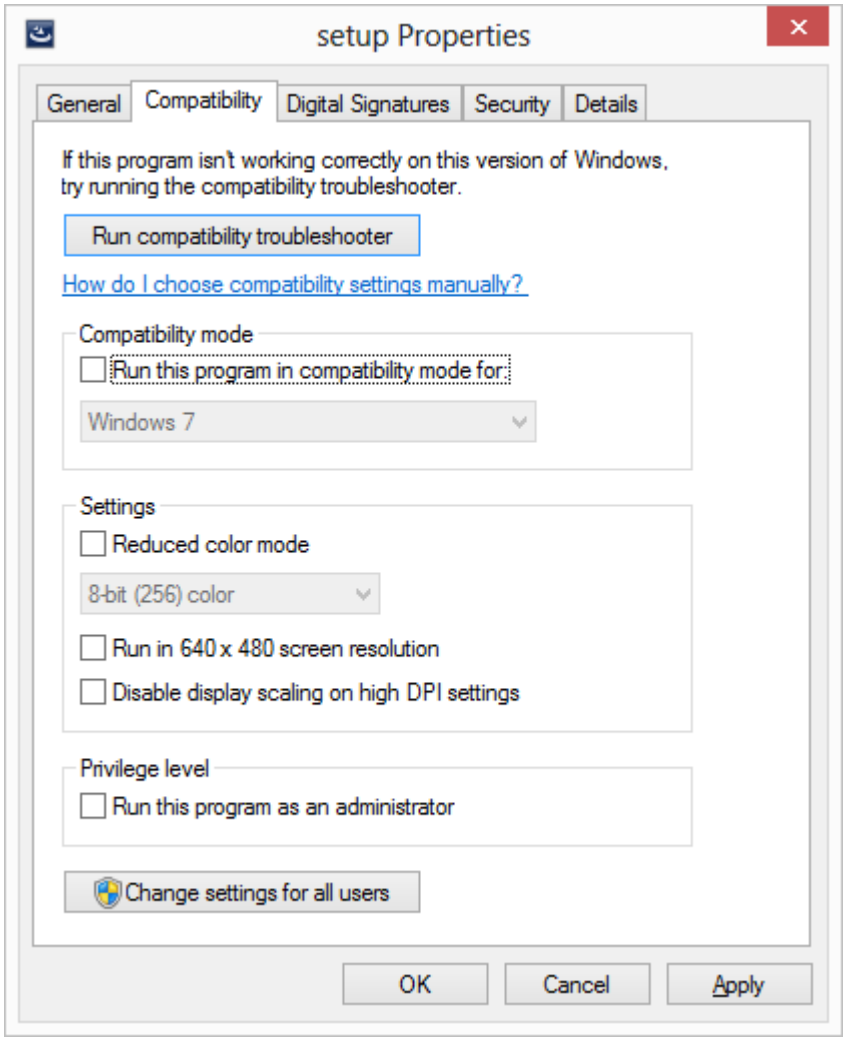
- In the Properties window.

  Select the ‘Compatibility’ tab.



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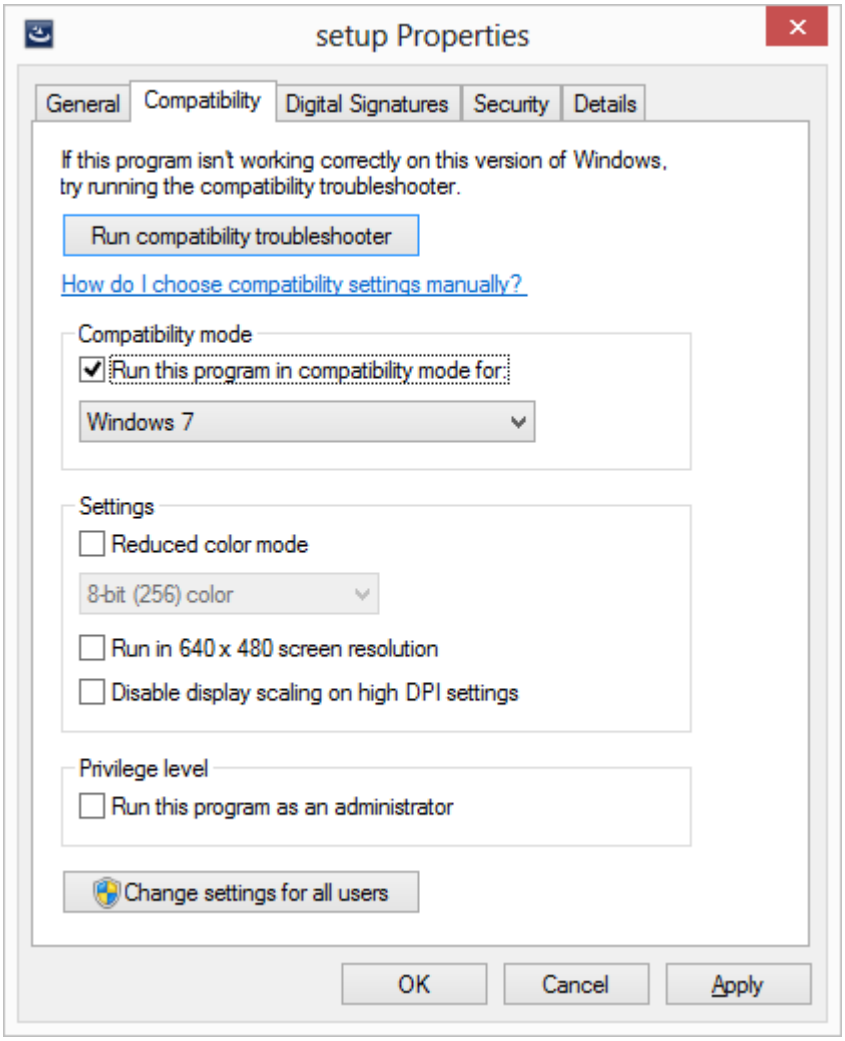
- Under ‘Compatibility mode’

  Enable ‘Run this program in compatibility mode for:”

  In the dropdown menu, select ‘Windows 7’



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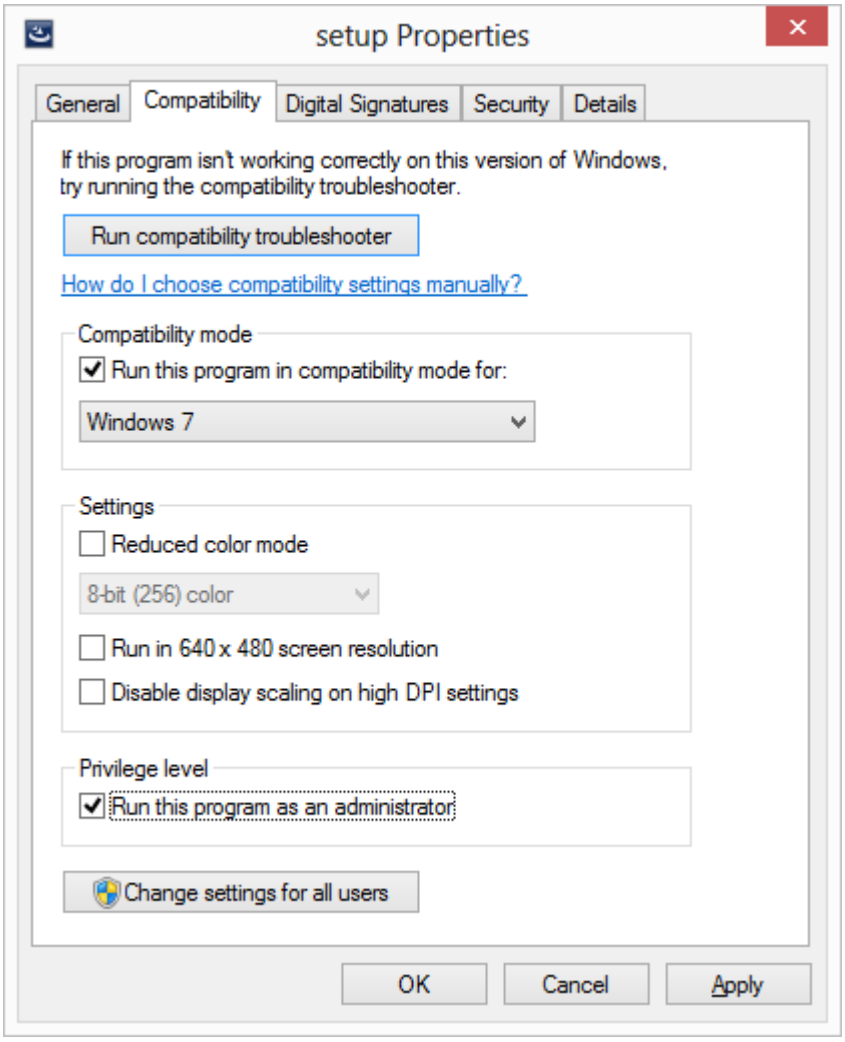
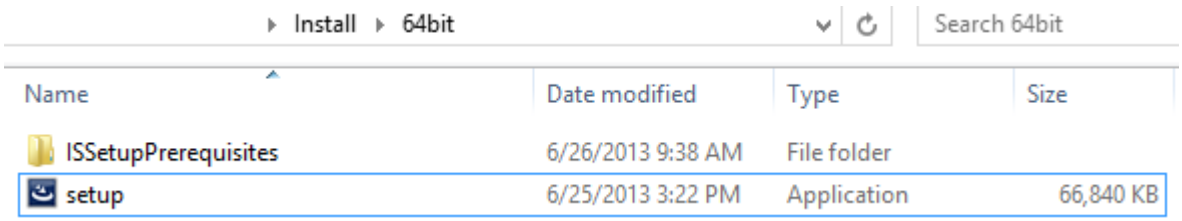
- Under 'Privilege level', Enable 'Run this program as an administrator'
  Click the 'OK' button



- Double-click the 'seup.exe' file to begin the installation process:



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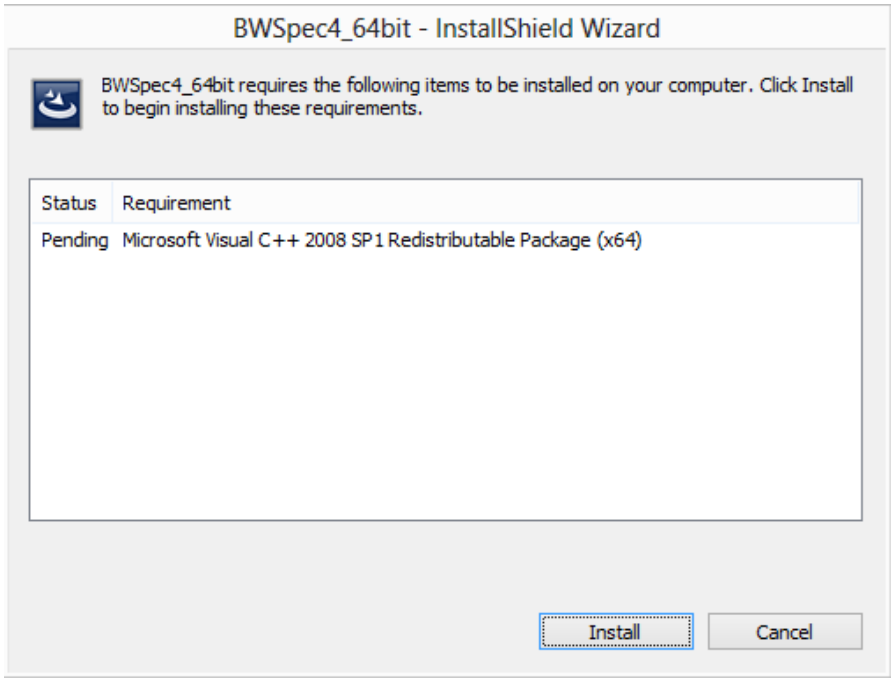
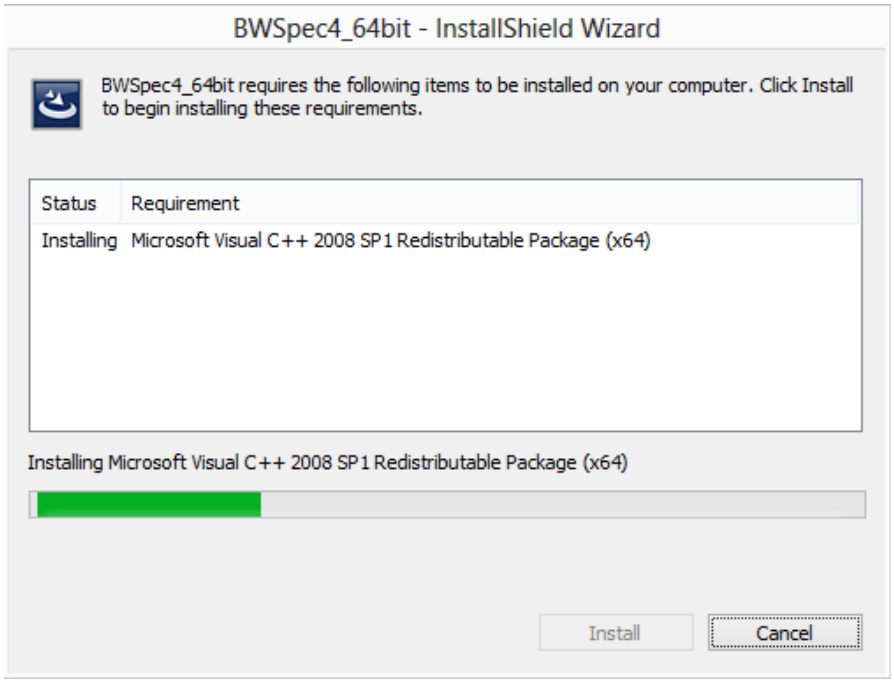
- An InstallShield Wizard will appear for C++ 2008 SP1 to be installed.
  Click 'Install'


BWSpec4_64bit - InstallShield Wizard
BWSpec4_64bit requires the following items to be installed on your computer. Click Install to begin installing these requirements.
Status
Requirement
Pending
Microsoft Visual C++ 2008 SP1 Redistributable Package (x64)
Install
Cancel


BWSpec4_64bit - InstallShield Wizard
BWSpec4_64bit requires the following items to be installed on your computer. Click Install to begin installing these requirements.
Status
Requirement
Installing
Microsoft Visual C++ 2008 SP1 Redistributable Package (x64)
Installing Microsoft Visual C++ 2008 SP1 Redistributable Package (x64)
Install
Cancel

- **Go to 'Preparing to Install' section 4.**

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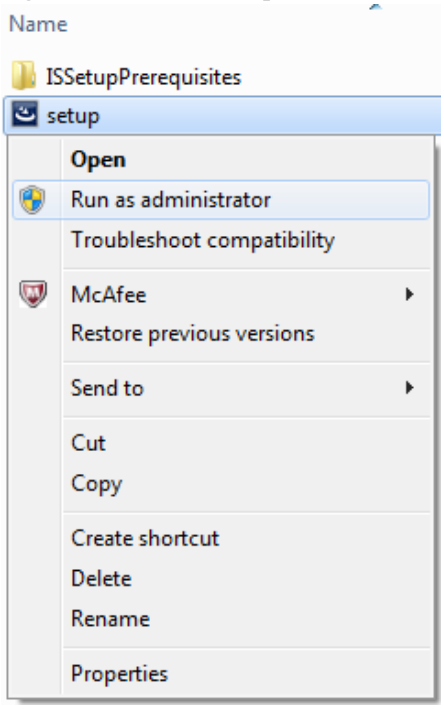
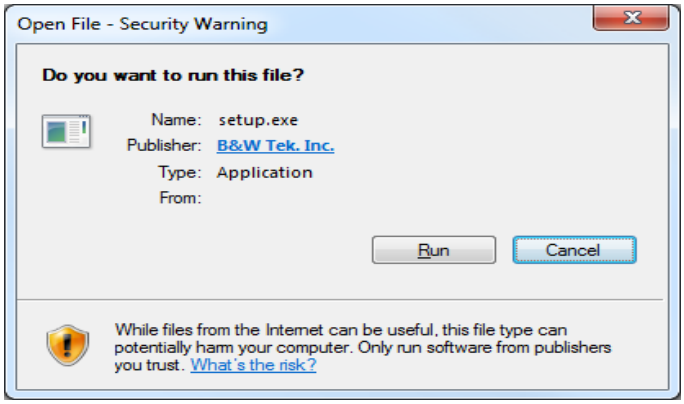
3.1.2 Windows 7

- Right Click on the 'setup.exe' file and select 'Run as Administrator'



\

- A Security Warning window will appear.
- Click 'Run'


Open File - Security Warning
Do you want to run this file?
Name: setup.exe
Publisher: B&W Tek, Inc.
Type: Application
From:
Run
Cancel
While files from the Internet can be useful, this file type can potentially harm your computer. Only run software from publishers you trust. What's the risk?

- **Go to the 'Preparing to Install' section 4.**

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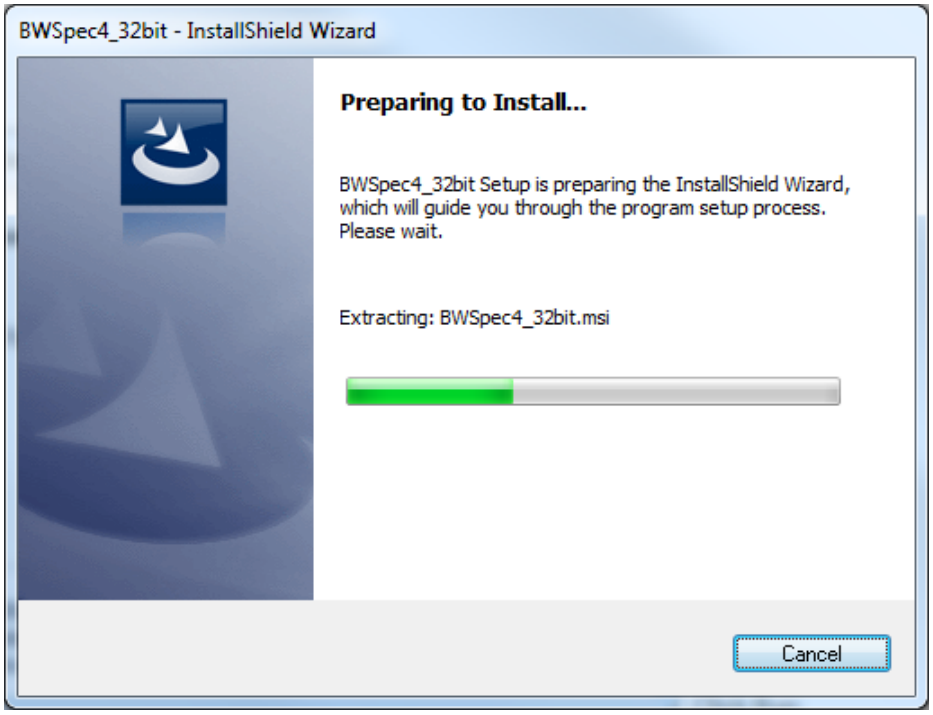
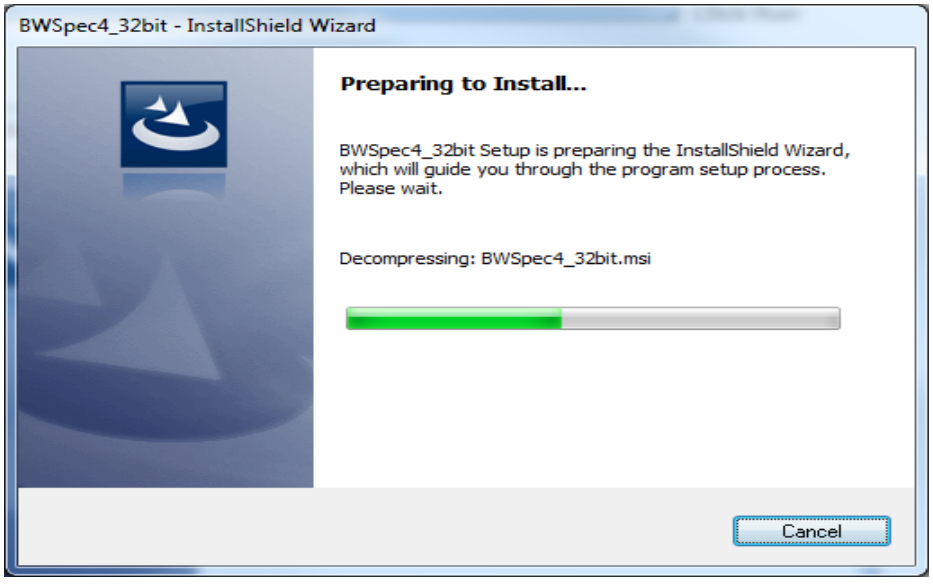
4. Preparing to Install


BWSpec4_32bit - InstallShield Wizard
Preparing to Install...
BWSpec4_32bit Setup is preparing the InstallShield Wizard, which will guide you through the program setup process. Please wait.
Extracting: BWSpec4_32bit.msi
Cancel

Extracting


BWSpec4_32bit - InstallShield Wizard
Preparing to Install...
BWSpec4_32bit Setup is preparing the InstallShield Wizard, which will guide you through the program setup process. Please wait.
Decompressing: BWSpec4_32bit.msi
Cancel

Decompressing

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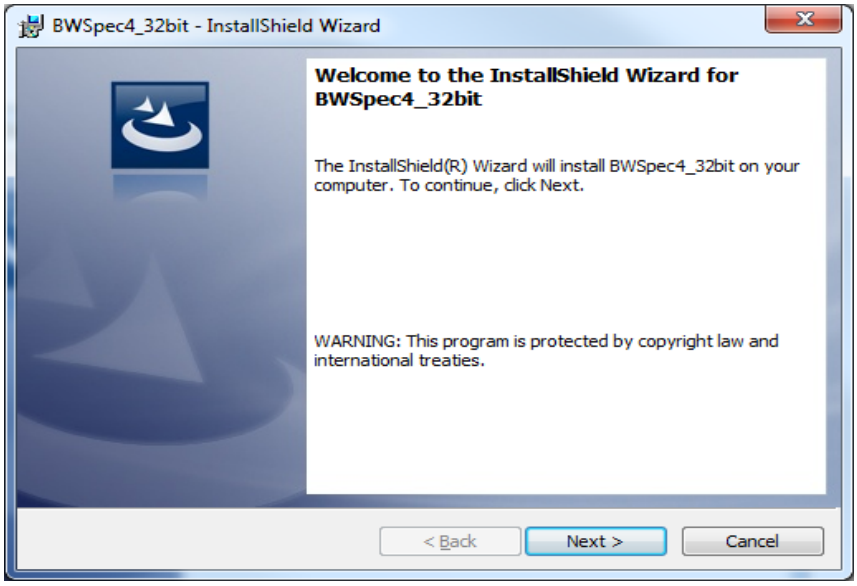
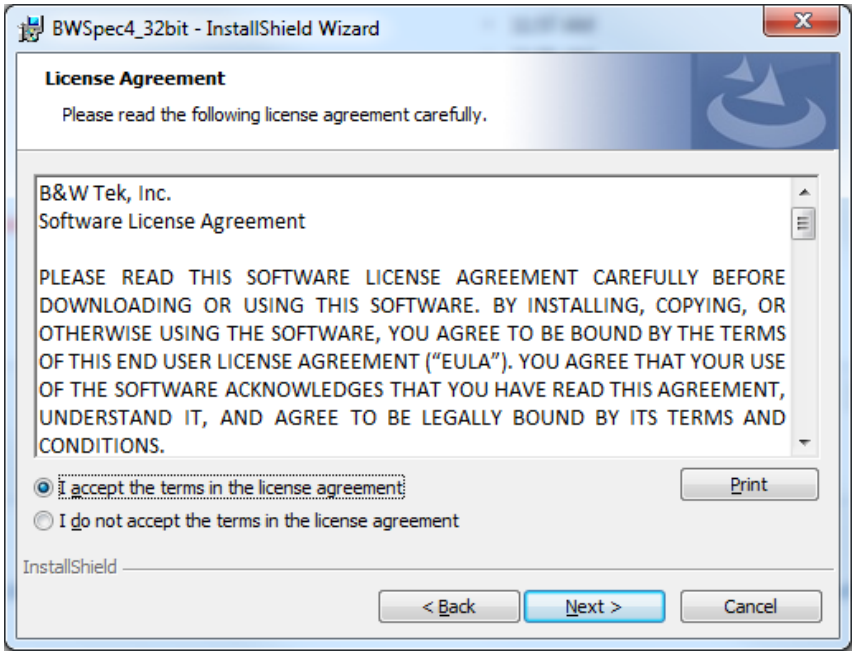
5. InstallShield Wizard


BWSpec4_32bit - InstallShield Wizard
Welcome to the InstallShield Wizard for BWSpec4_32bit
The InstallShield(R) Wizard will install BWSpec4_32bit on your computer. To continue, click Next.
WARNING: This program is protected by copyright law and international treaties.
< Back
Next >
Cancel

- Welcome Screen: Click “Next”


BWSpec4_32bit - InstallShield Wizard
License Agreement
Please read the following license agreement carefully.
B&W Tek, Inc.
Software License Agreement
PLEASE READ THIS SOFTWARE LICENSE AGREEMENT CAREFULLY BEFORE DOWNLOADING OR USING THIS SOFTWARE. BY INSTALLING, COPYING, OR OTHERWISE USING THE SOFTWARE, YOU AGREE TO BE BOUND BY THE TERMS OF THIS END USER LICENSE AGREEMENT (“EULA”). YOU AGREE THAT YOUR USE OF THE SOFTWARE ACKNOWLEDGES THAT YOU HAVE READ THIS AGREEMENT, UNDERSTAND IT, AND AGREE TO BE LEGALLY BOUND BY ITS TERMS AND CONDITIONS.
I accept the terms in the license agreement
I do not accept the terms in the license agreement
Print
InstallShield
< Back
Next >
Cancel

- License Agreement page:
  Read the license agreement.

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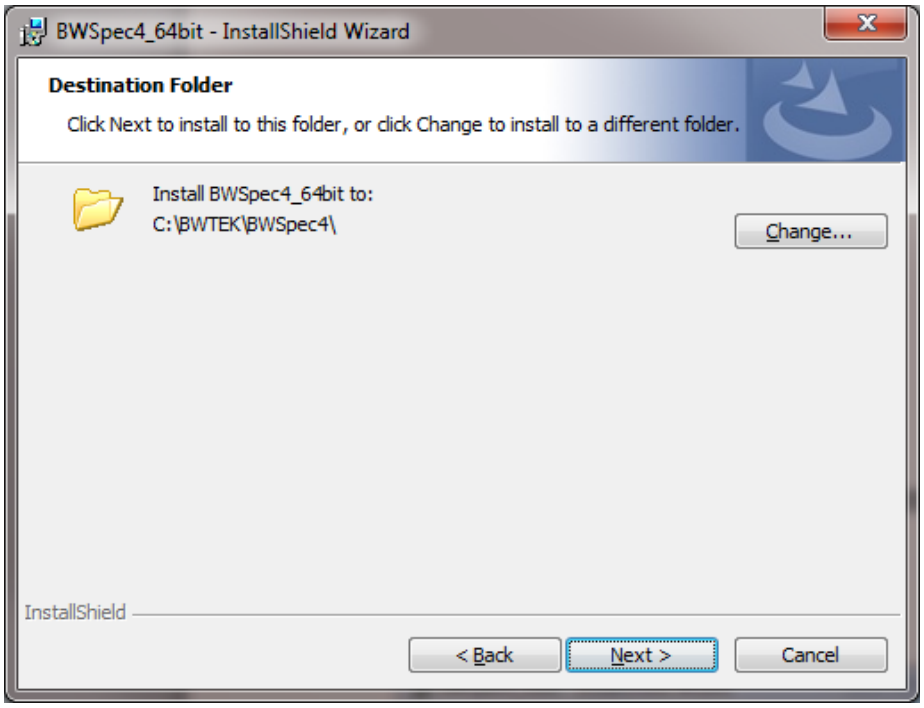
- Select, "I accept the terms in the license agreement" to continue with installation. If you 'accept' the terms,

  Click "Next"



- Destination folder where BWSpec will be installed:

- Click "Next"

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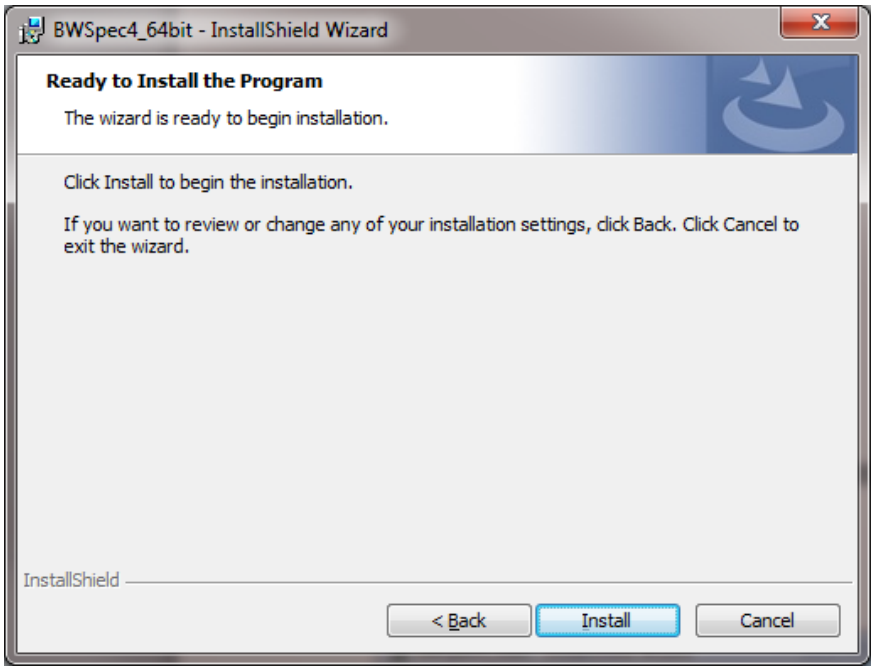
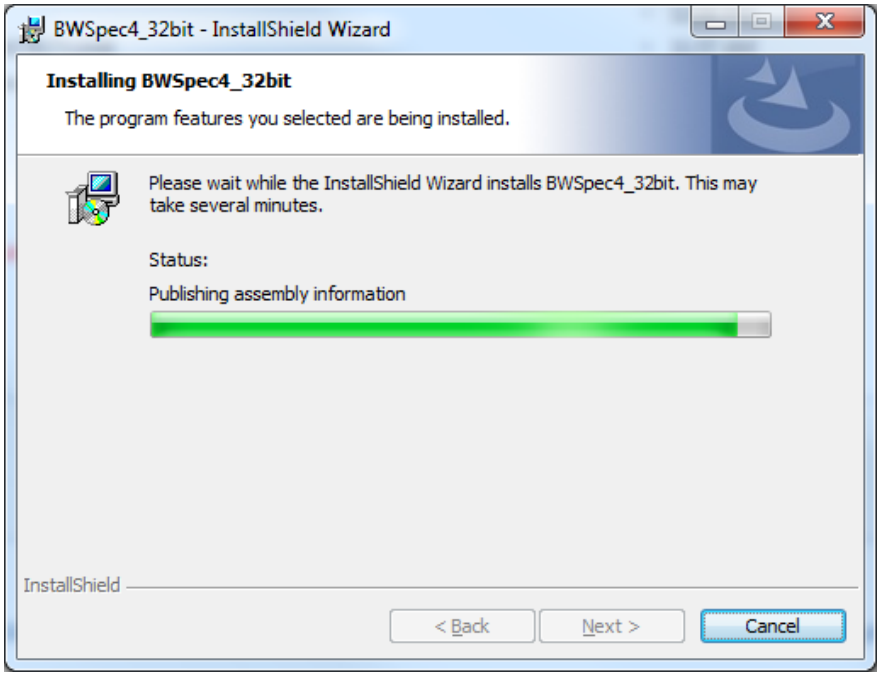

BWSpec4_64bit - InstallShield Wizard
Ready to Install the Program
The wizard is ready to begin installation.
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
InstallShield
< Back
Install
Cancel

- Click “Install”


BWSpec4_32bit - InstallShield Wizard
Installing BWSpec4_32bit
The program features you selected are being installed.
Please wait while the InstallShield Wizard installs BWSpec4_32bit. This may take several minutes.
Status:
Publishing assembly information
InstallShield
< Back
Next >
Cancel

Installation progress bar:

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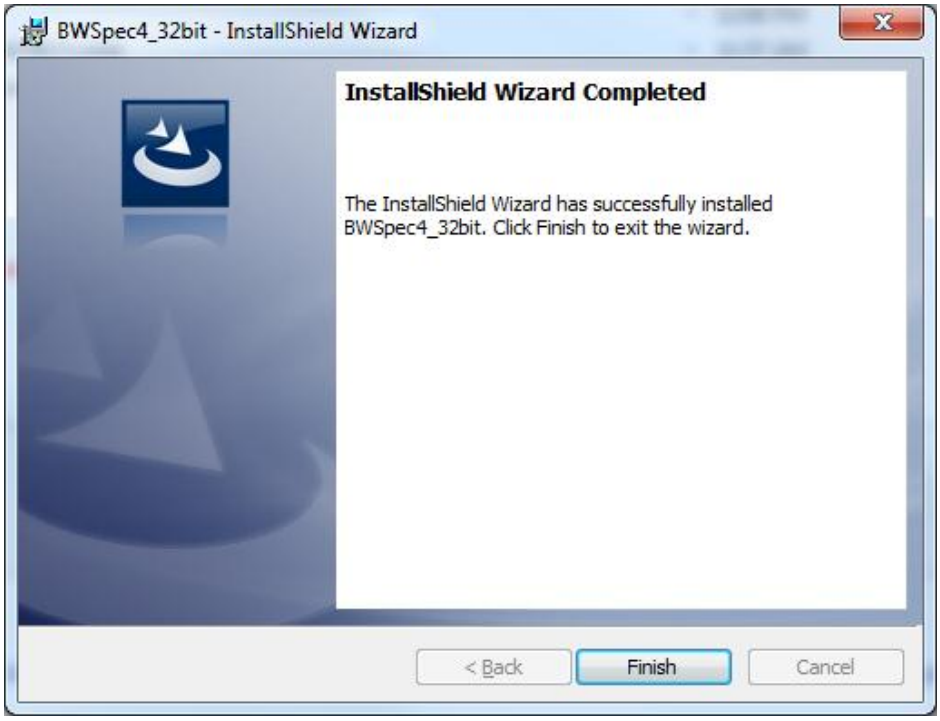
BWSpec4_32bit - InstallShield Wizard
InstallShield Wizard Completed
The InstallShield Wizard has successfully installed BWSpec4_32bit. Click Finish to exit the wizard.
< Back
Finish
Cancel

Installation is completed.

- Click “Finish”

<u>Do Not</u> open the software program at this time. First we must install the Hardware Drivers for the spectrometer.

6. Open the Device Manager

6.1 Windows 8:

- Press ‘Windows Key + R’
  A ‘Run’ window will appear
- In the Open: section, type: **mmc devmgmt.msc**
- Press OK
- The Device Manager window will open

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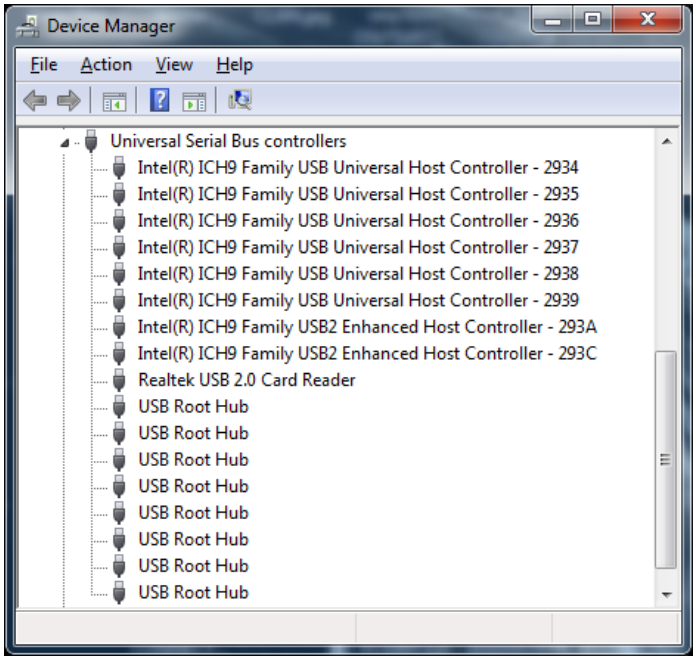
6.2 Windows 7:

- Press 'Windows Key + R'
  A 'Run' window will appear
- In the Open: section, type: **mmc devmgmt.msc**
- Press OK
- The Device Manager window will open

- In the Device Manager window expand the "Universal Serial Bus controllers" [USB] section.


Device Manager
File Action View Help
Universal Serial Bus controllers
Intel(R) ICH9 Family USB Universal Host Controller - 2934
Intel(R) ICH9 Family USB Universal Host Controller - 2935
Intel(R) ICH9 Family USB Universal Host Controller - 2936
Intel(R) ICH9 Family USB Universal Host Controller - 2937
Intel(R) ICH9 Family USB Universal Host Controller - 2938
Intel(R) ICH9 Family USB Universal Host Controller - 2939
Intel(R) ICH9 Family USB2 Enhanced Host Controller - 293A
Intel(R) ICH9 Family USB2 Enhanced Host Controller - 293C
Realtek USB 2.0 Card Reader
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub

7. Hardware Installation

<u>Do Not</u> 'open' the software program at this time. The Hardware Drivers for the spectrometer must first be installed.

- Definitions:
  Spectrometers which have USB 3.0 capabilities we refer to as 'USB 3.0'
  Spectrometers which have only USB 1.1/2.0 capabilities will be referred to as 'USB 2.0' spectrometers.

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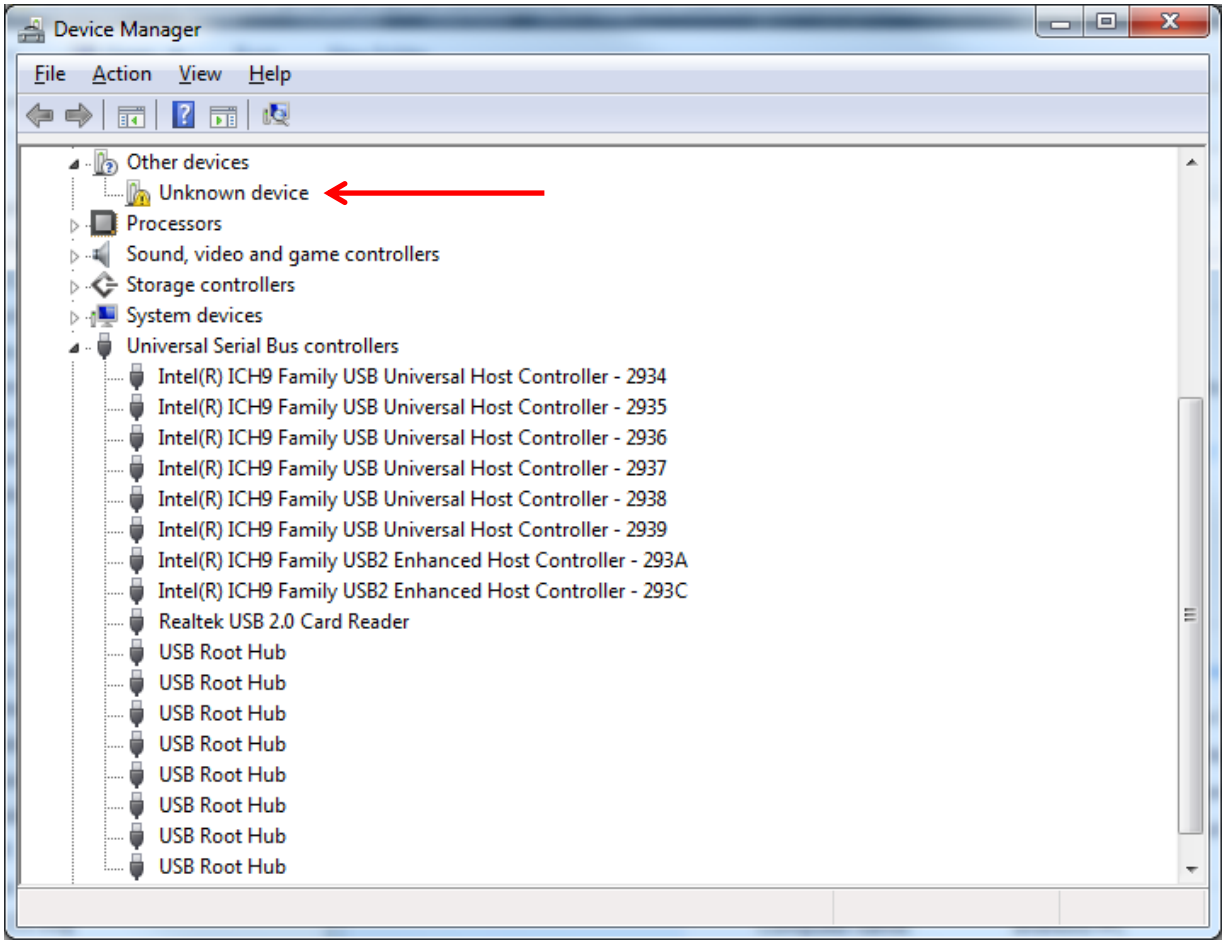
****Below there are four different installation guides. Two are for a 32-Bit OS the other two for a 64-Bit OS. Find and follow the appropriate installation guide for your computer and spectrometer hardware.**

****If you are not sure if you have a 32-Bit or 64-Bit OS, check with your IT Dept.****

7.1 USB 2.0 Ported Spectrometer Hardware Installation 32-Bit OS

- If your spectrometer has a Power Supply, properly connect to an outlet and the spectrometer.
- Connect the USB 2.0 Cable to any USB Port on your computer and then to your spectrometer.

The spectrometer will first show up as an 'Unknown device"


Device Manager
File Action View Help
Other devices
Unknown device
Processors
Sound, video and game controllers
Storage controllers
System devices
Universal Serial Bus controllers
Intel(R) ICH9 Family USB Universal Host Controller - 2934
Intel(R) ICH9 Family USB Universal Host Controller - 2935
Intel(R) ICH9 Family USB Universal Host Controller - 2936
Intel(R) ICH9 Family USB Universal Host Controller - 2937
Intel(R) ICH9 Family USB Universal Host Controller - 2938
Intel(R) ICH9 Family USB Universal Host Controller - 2939
Intel(R) ICH9 Family USB2 Enhanced Host Controller - 293A
Intel(R) ICH9 Family USB2 Enhanced Host Controller - 293C
Realtek USB 2.0 Card Reader
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub

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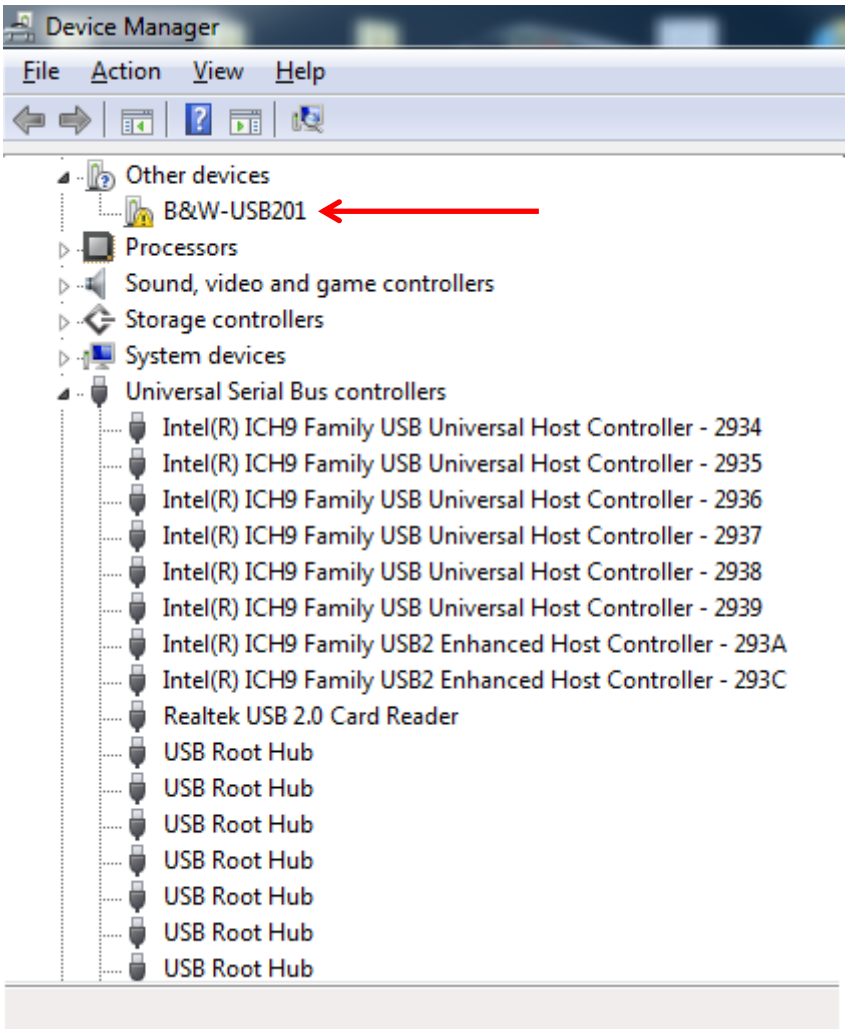
After about 30 seconds the 'Unknown device' will be found to be 'B&W-USB201'


Device Manager
File Action View Help
Other devices
B&W-USB201
Processors
Sound, video and game controllers
Storage controllers
System devices
Universal Serial Bus controllers
Intel(R) ICH9 Family USB Universal Host Controller - 2934
Intel(R) ICH9 Family USB Universal Host Controller - 2935
Intel(R) ICH9 Family USB Universal Host Controller - 2936
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Intel(R) ICH9 Family USB Universal Host Controller - 2939
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Intel(R) ICH9 Family USB2 Enhanced Host Controller - 293C
Realtek USB 2.0 Card Reader
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub

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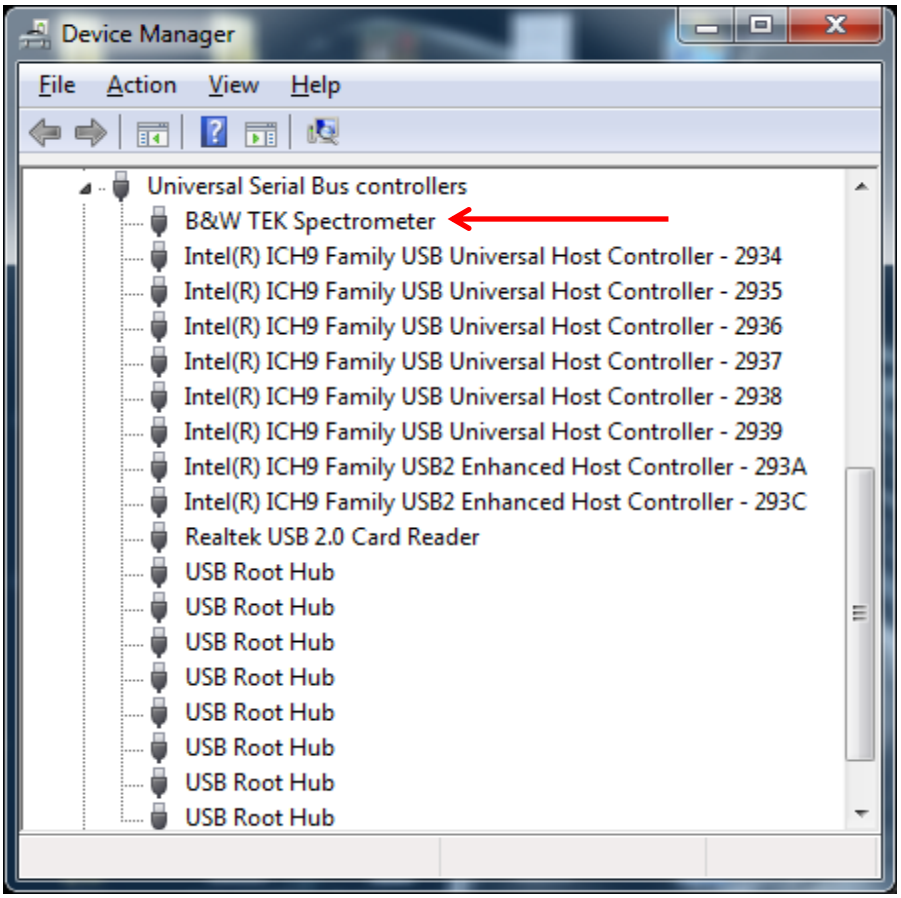
After about 30 seconds the 'B&W-USB201' will be found to be 'B&W TEK Spectrometer'


Device Manager
File Action View Help
Universal Serial Bus controllers
B&W TEK Spectrometer
Intel(R) ICH9 Family USB Universal Host Controller - 2934
Intel(R) ICH9 Family USB Universal Host Controller - 2935
Intel(R) ICH9 Family USB Universal Host Controller - 2936
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Realtek USB 2.0 Card Reader
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub

You are now ready to Open BWSpec 4 and run the spectrometer.

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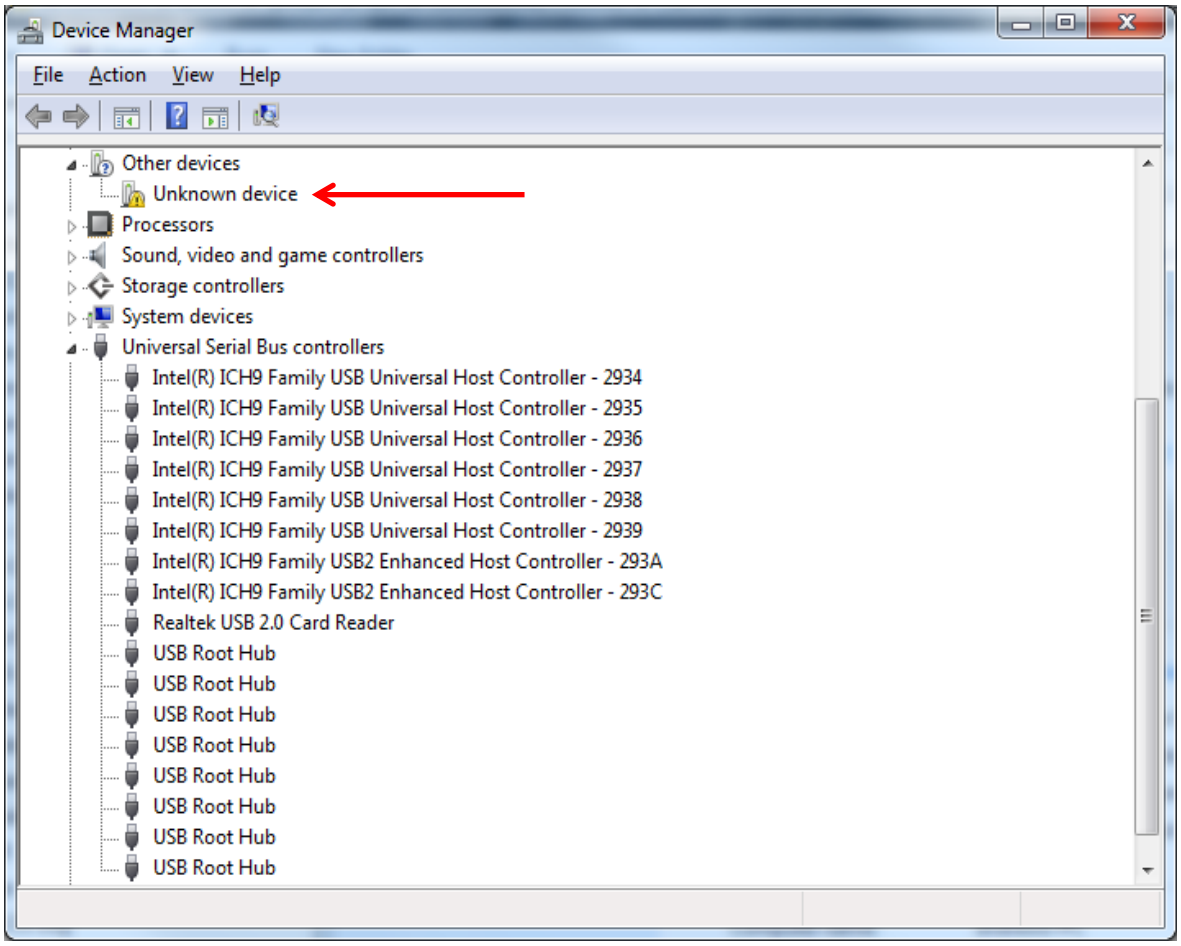
7.2 USB 2.0 Ported Spectrometer Hardware Installation 64-Bit OS

- If your spectrometer has a Power Supply, properly connect to an outlet and the spectrometer.
- Connect the USB 2.0 Cable to any USB Port on your computer and then to your spectrometer.

The spectrometer will first show up as an 'Unknown device"


Device Manager
File
Action
View
Help
Other devices
Unknown device
Processors
Sound, video and game controllers
Storage controllers
System devices
Universal Serial Bus controllers
Intel(R) ICH9 Family USB Universal Host Controller - 2934
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Realtek USB 2.0 Card Reader
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub

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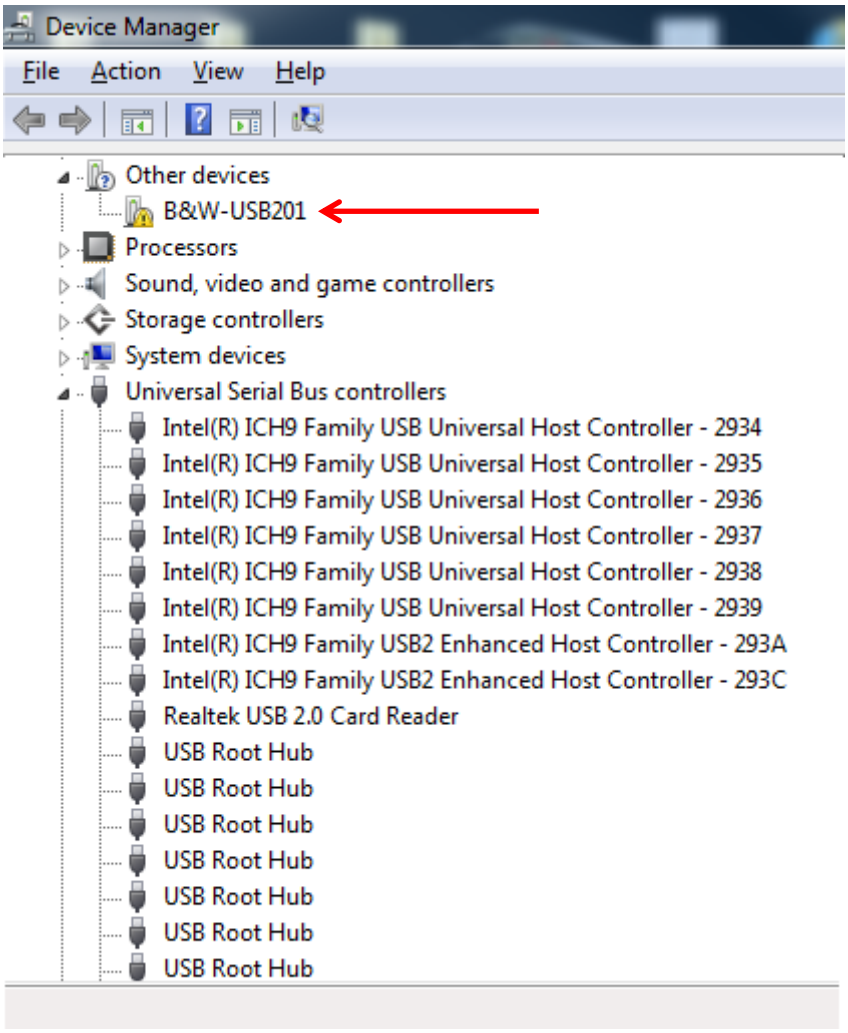
After about 30 seconds the 'Unknown device' will be found to be 'B&W-USB201'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Intel(R) ICH9 Family USB Universal Host Controller - 2938
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Realtek USB 2.0 Card Reader
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub

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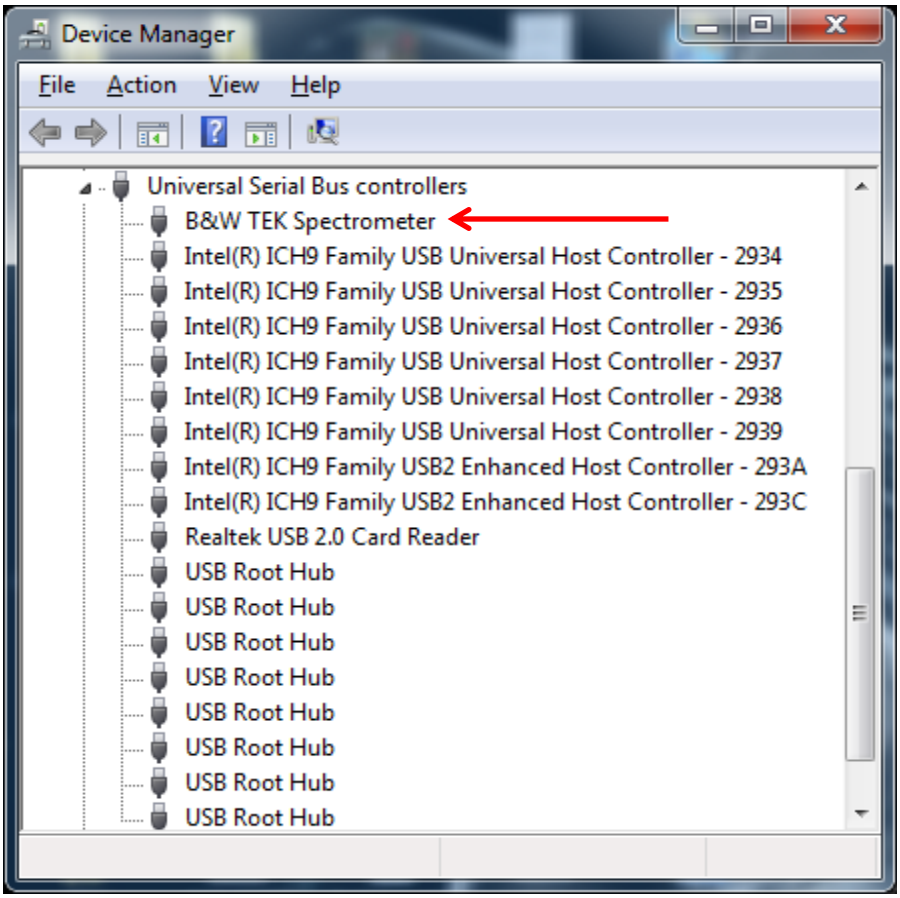
After about 30 seconds the 'B&W-USB201' will be found to be 'B&W TEK Spectrometer'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Intel(R) ICH9 Family USB Universal Host Controller - 2937
Intel(R) ICH9 Family USB Universal Host Controller - 2938
Intel(R) ICH9 Family USB Universal Host Controller - 2939
Intel(R) ICH9 Family USB2 Enhanced Host Controller - 293A
Intel(R) ICH9 Family USB2 Enhanced Host Controller - 293C
Realtek USB 2.0 Card Reader
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub
USB Root Hub

You are now ready to Open BWSpec 4 and run the spectrometer.

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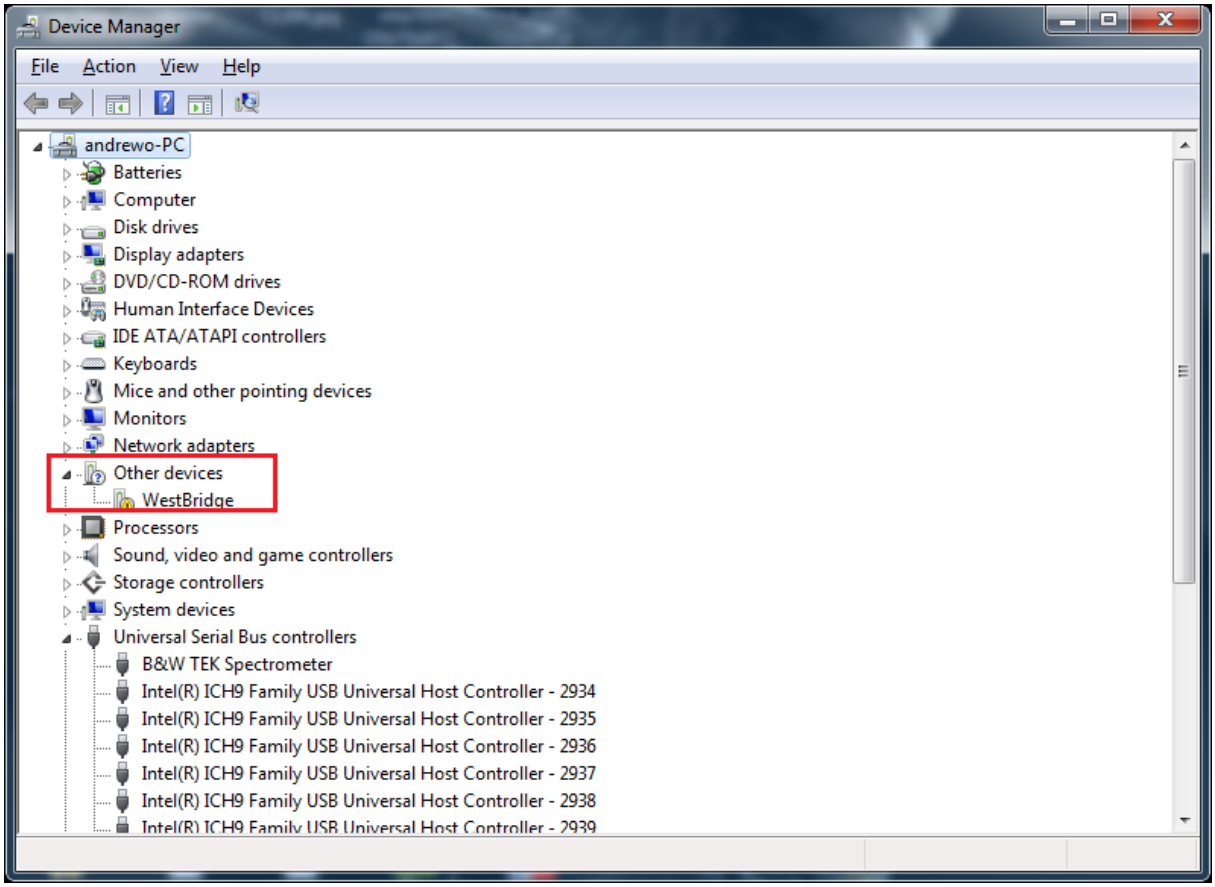
7.3 USB 3.0 Ported Spectrometer Hardware Installation 32 Bit-OS

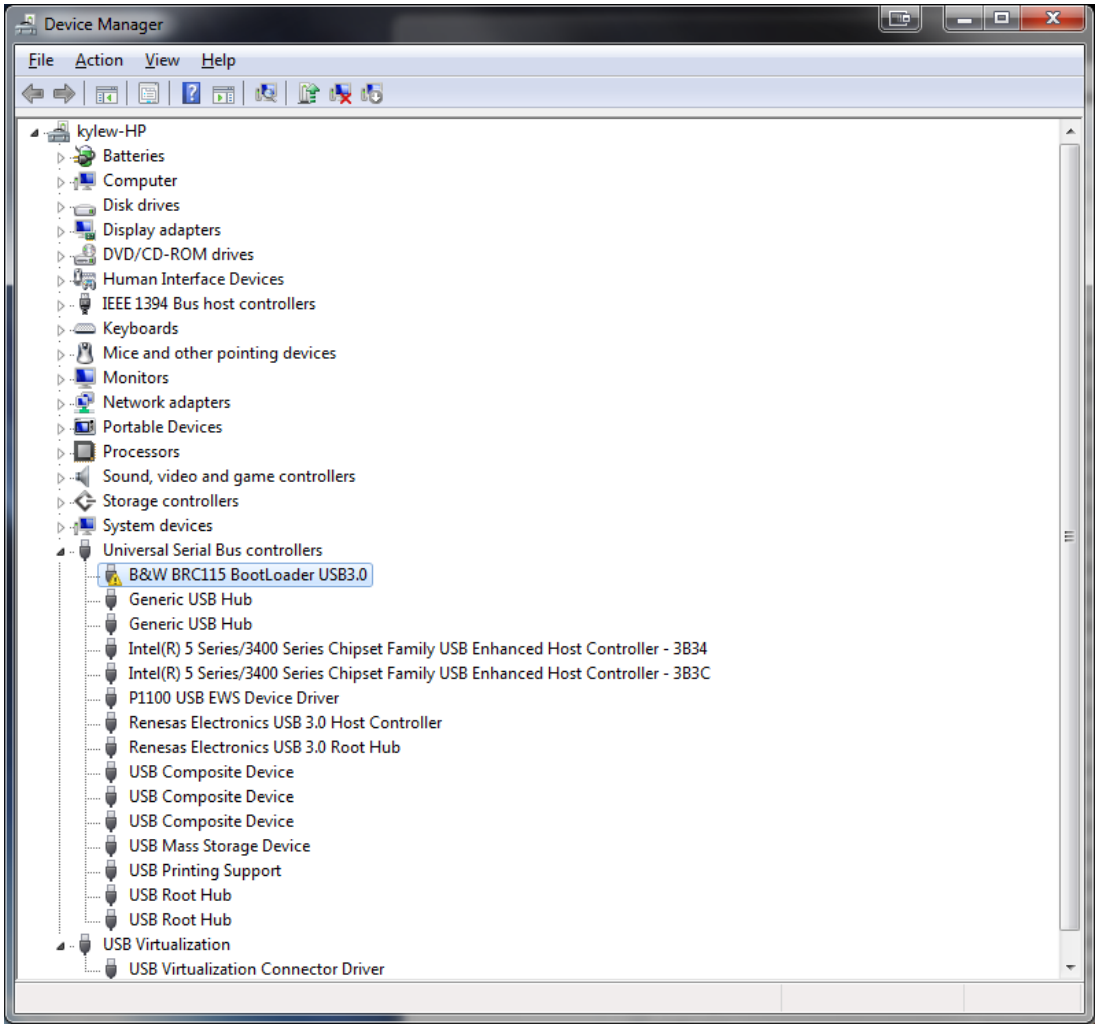
- If your spectrometer has a Power Supply, properly connect to an outlet and the spectrometer. Connect the USB 3.0 Cable to any USB Port on your computer and then to your spectrometer.

- *The USB Port on the PC does ***Not*** need to be a USB 3.0 port for the spectrometer to operate. Using less than a USB 3.0 port will simply reduce the transfer speed between the spectrometer and PC.



- After about 30 seconds the “WestBridge” driver will appear in the Device Manager.

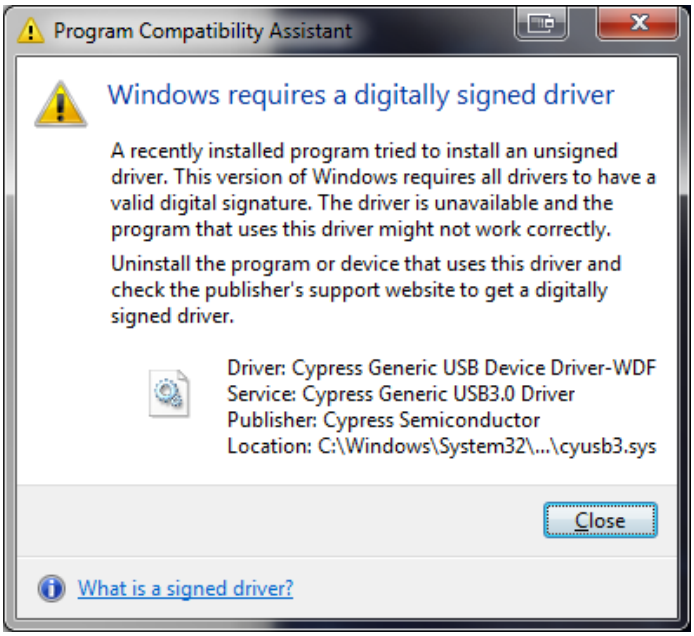
 Copyright 2013 B&W Tek, Inc.



- "B&W BRC115 BootLoader USB3.0" will then appear under USB in the Device Manager.

 Copyright 2013 B&W Tek, Inc.

- You may also receive the following "Program Compatibility Assistant" message concerning an unsigned driver:


Program Compatibility Assistant
Windows requires a digitally signed driver
A recently installed program tried to install an unsigned driver. This version of Windows requires all drivers to have a valid digital signature. The driver is unavailable and the program that uses this driver might not work correctly.
Uninstall the program or device that uses this driver and check the publisher's support website to get a digitally signed driver.
Driver: Cypress Generic USB Device Driver-WDF
Service: Cypress Generic USB3.0 Driver
Publisher: Cypress Semiconductor
Location: C:\Windows\System32\...\cyusb3.sys
Close
What is a signed driver?

- Click Close

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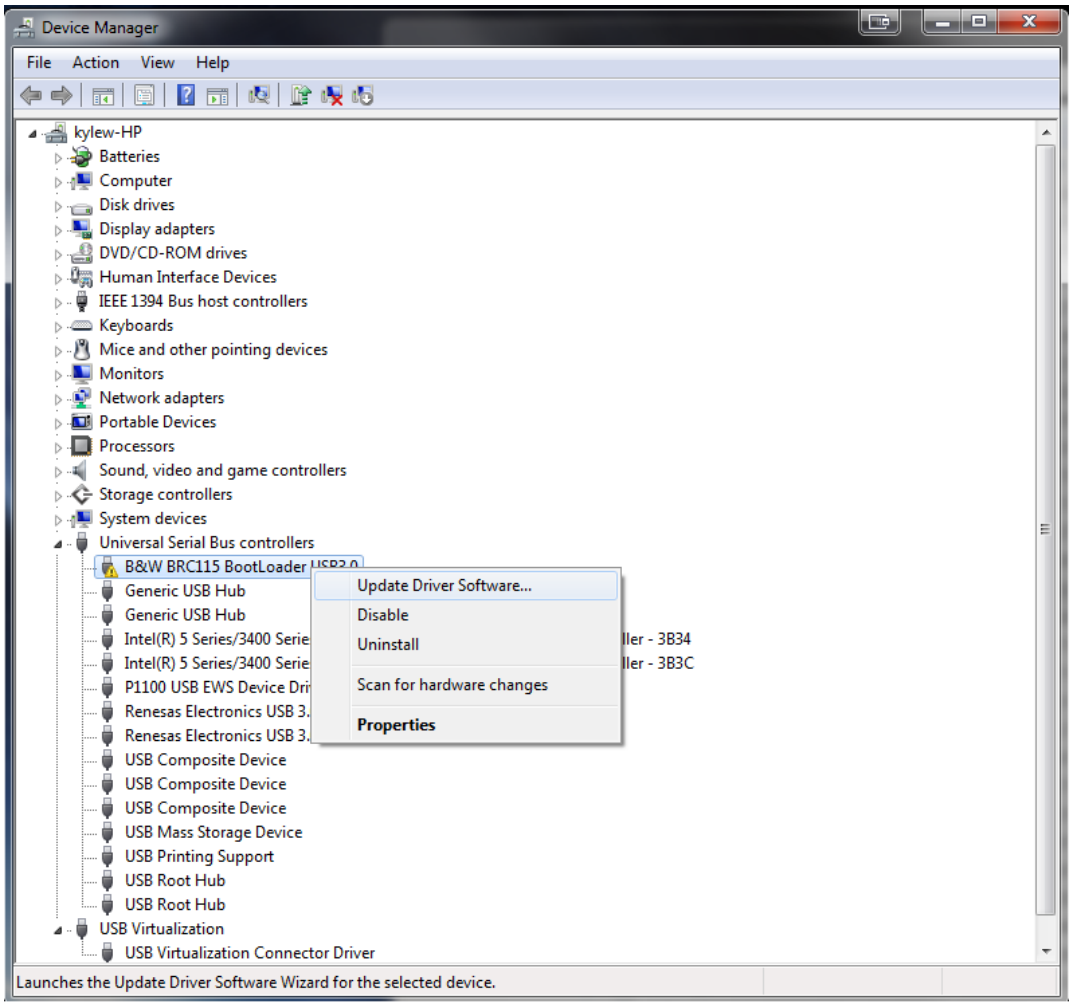
- Update Driver



- Right Click on “B&W BRC115 BootLoader USB3.0” and select “Update Driver Software…”

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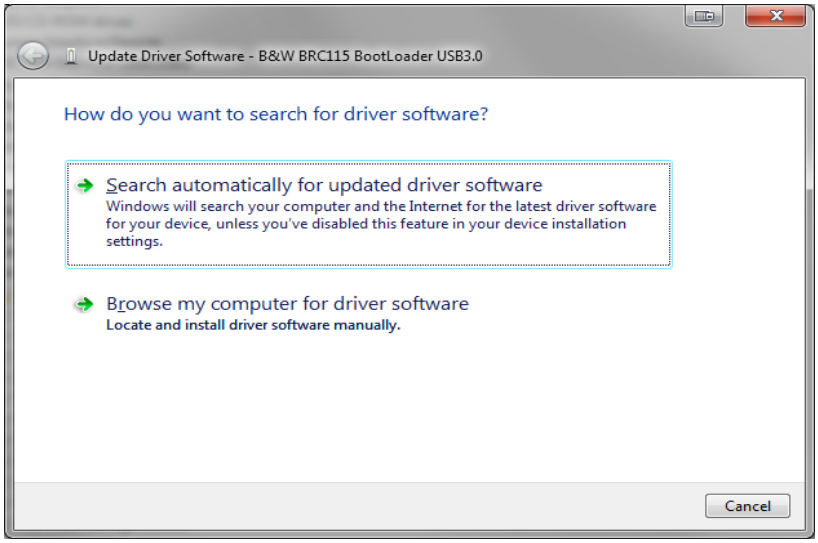
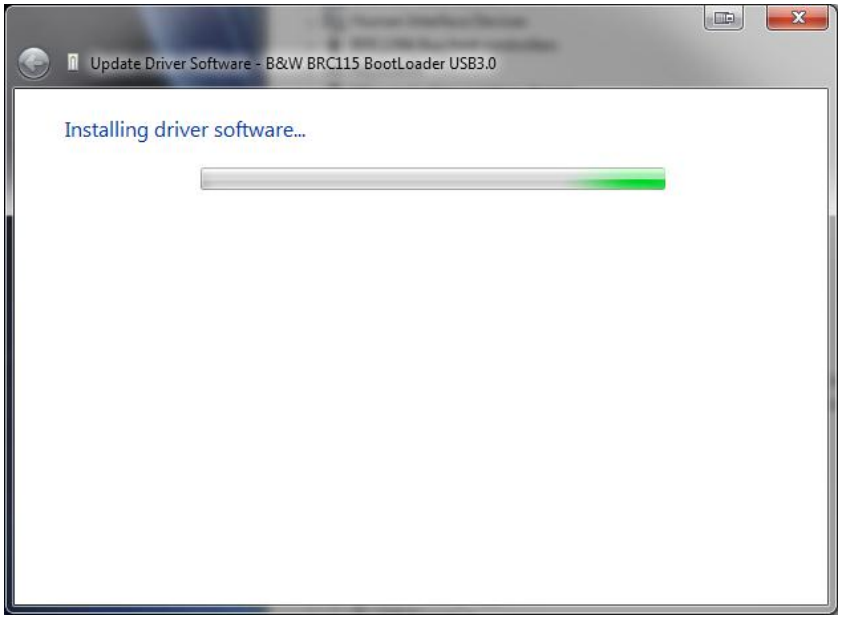
- Search Options:


Update Driver Software - B&W BRC115 BootLoader USB3.0
How do you want to search for driver software?
Search automatically for updated driver software
Windows will search your computer and the Internet for the latest driver software for your device, unless you've disabled this feature in your device installation settings.
Browse my computer for driver software
Locate and install driver software manually.
Cancel

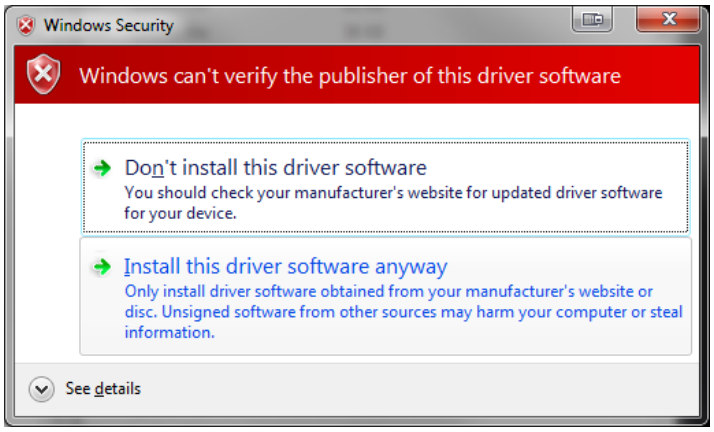
- Select "Search automatically for updated driver software"



- Installation will begin

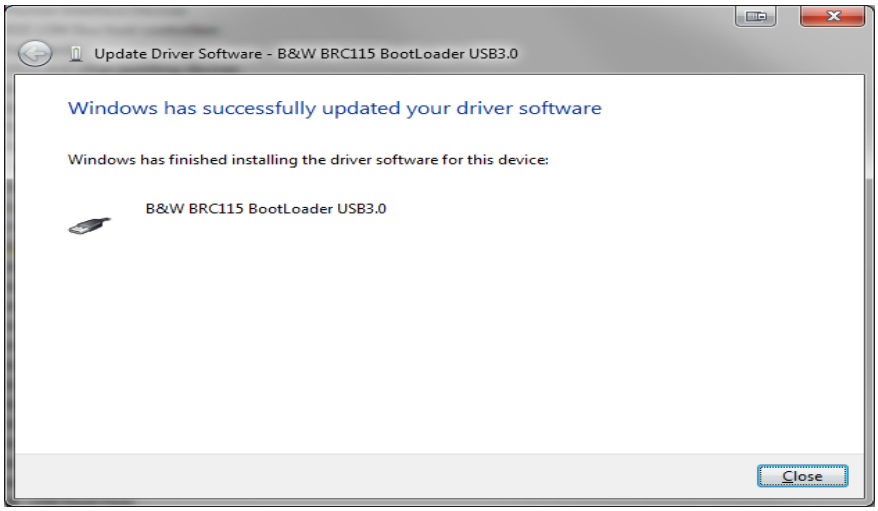
 Copyright 2013 B&W Tek, Inc.

- Windows Security Prompt:


Windows Security
Windows can't verify the publisher of this driver software
Don't install this driver software
You should check your manufacturer's website for updated driver software for your device.
Install this driver software anyway
Only install driver software obtained from your manufacturer's website or disc. Unsigned software from other sources may harm your computer or steal information.
See details

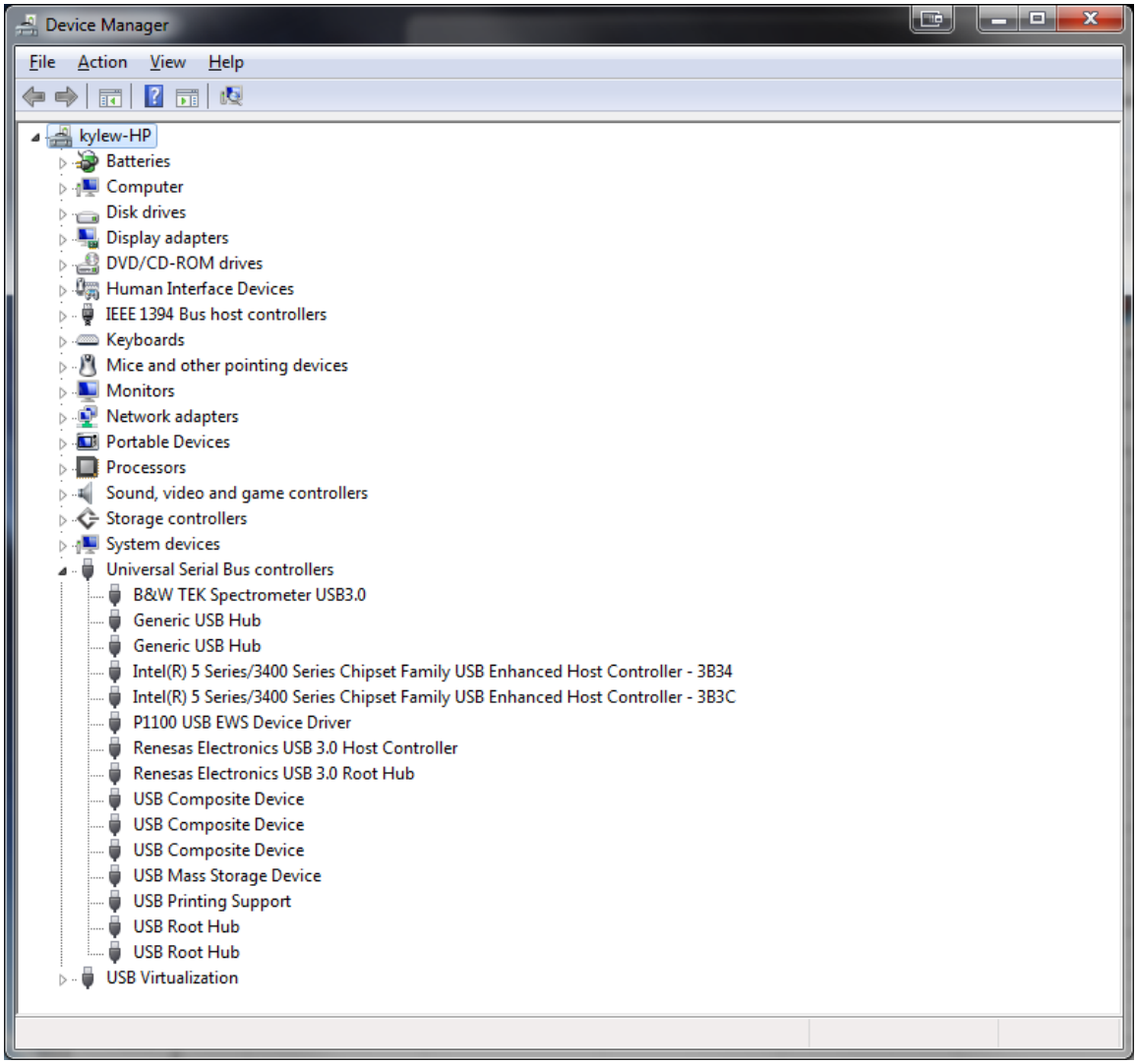
- Select “Install this driver software anyway”

- Driver will install successfully


Update Driver Software - B&W BRC115 BootLoader USB3.0
Windows has successfully updated your driver software
Windows has finished installing the driver software for this device:
B&W BRC115 BootLoader USB3.0
Close

- **Click “Close”**

 Copyright 2013 B&W Tek, Inc.



- B&W TEK Spectrometer USB3.0 will appear under USB Controllers.

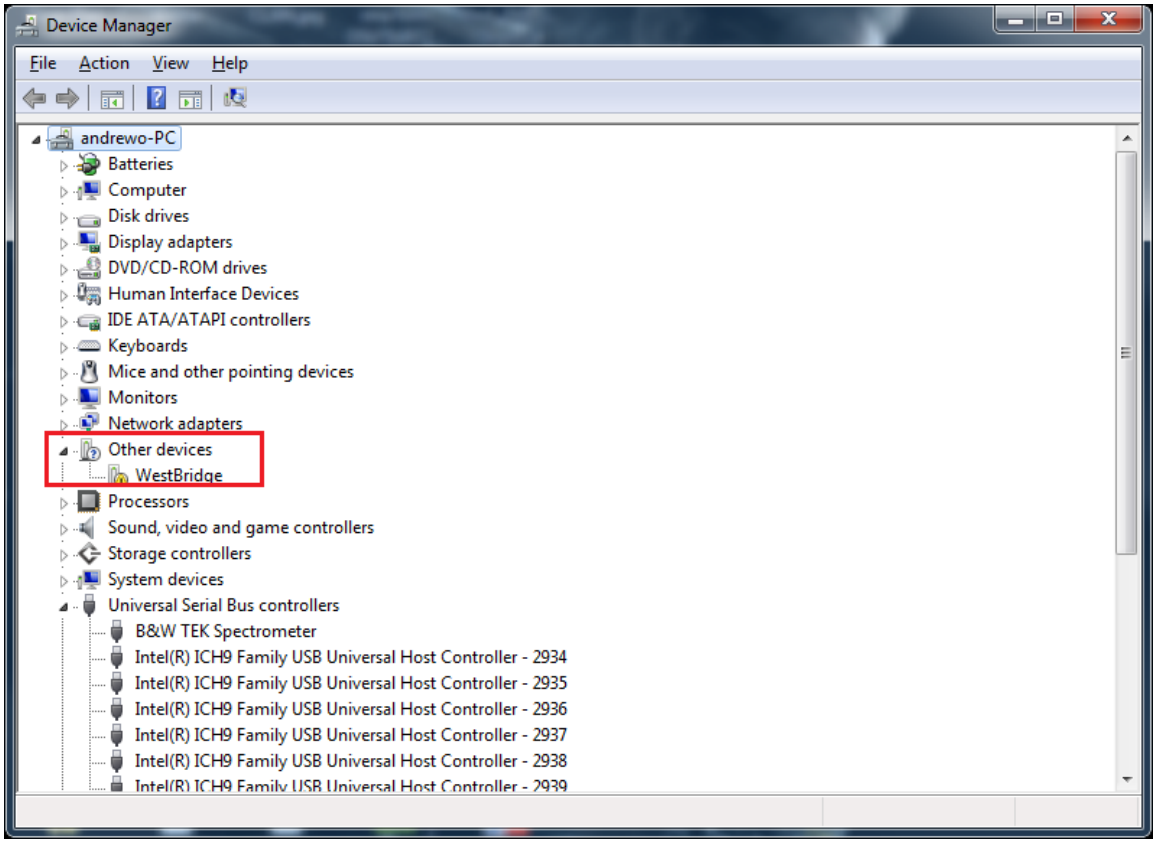
You are now ready to Open BWSpec 4 and run the spectrometer.

 Copyright 2013 B&W Tek, Inc.

7.4 USB 3.0 Ported Spectrometer Hardware Installation 64-Bit OS:

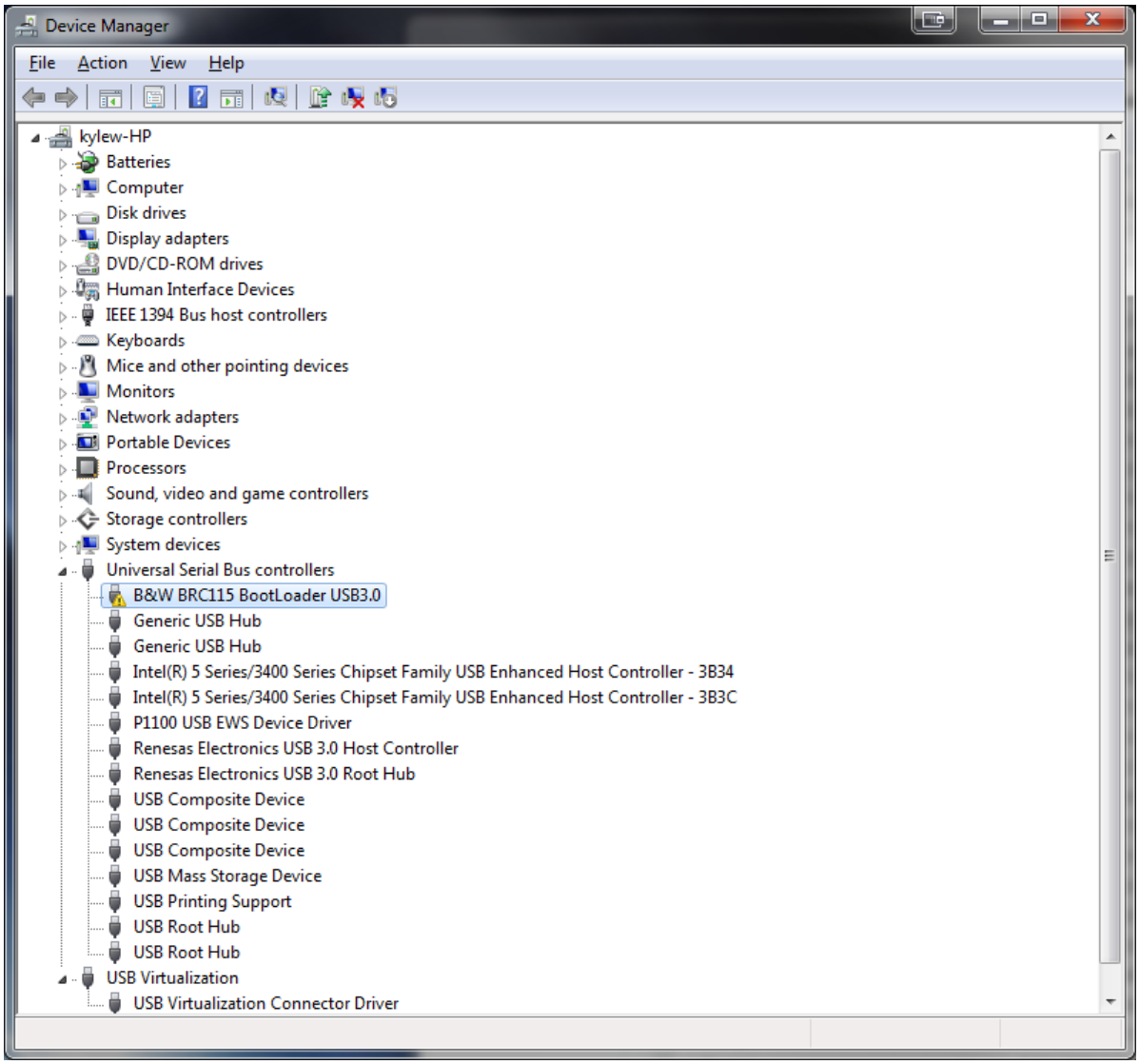
- If your spectrometer has a Power Supply, properly connect to an outlet and the spectrometer. Connect the USB 3.0 Cable to any USB Port on your computer and then to your spectrometer.

- *The USB Port on the PC does ***Not*** need to be a USB 3.0 port for the spectrometer to operate. Using less than a USB 3.0 port will simply reduce the transfer speed between the spectrometer and PC.



- After about 30 seconds the “WestBridge” driver will appear in the Device Manager.

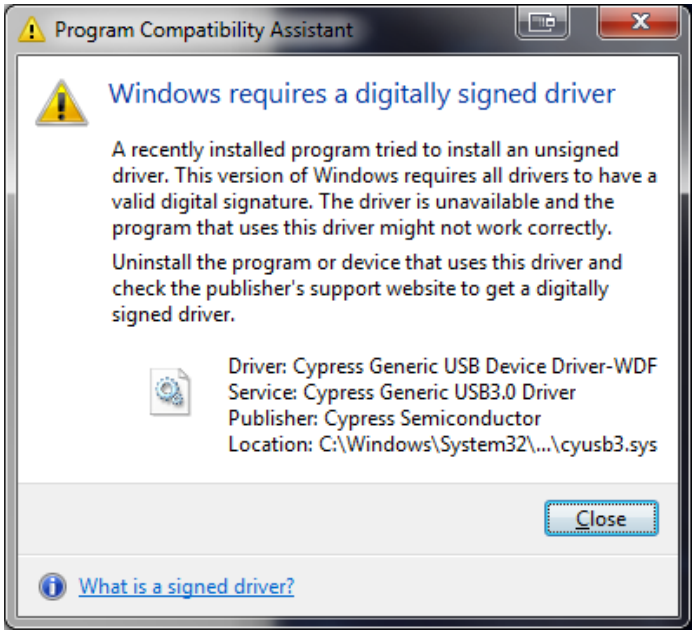
 Copyright 2013 B&W Tek, Inc.



- "B&W BRC115 BootLoader USB3.0" will appear under USB in the Device Manager.

 Copyright 2013 B&W Tek, Inc.

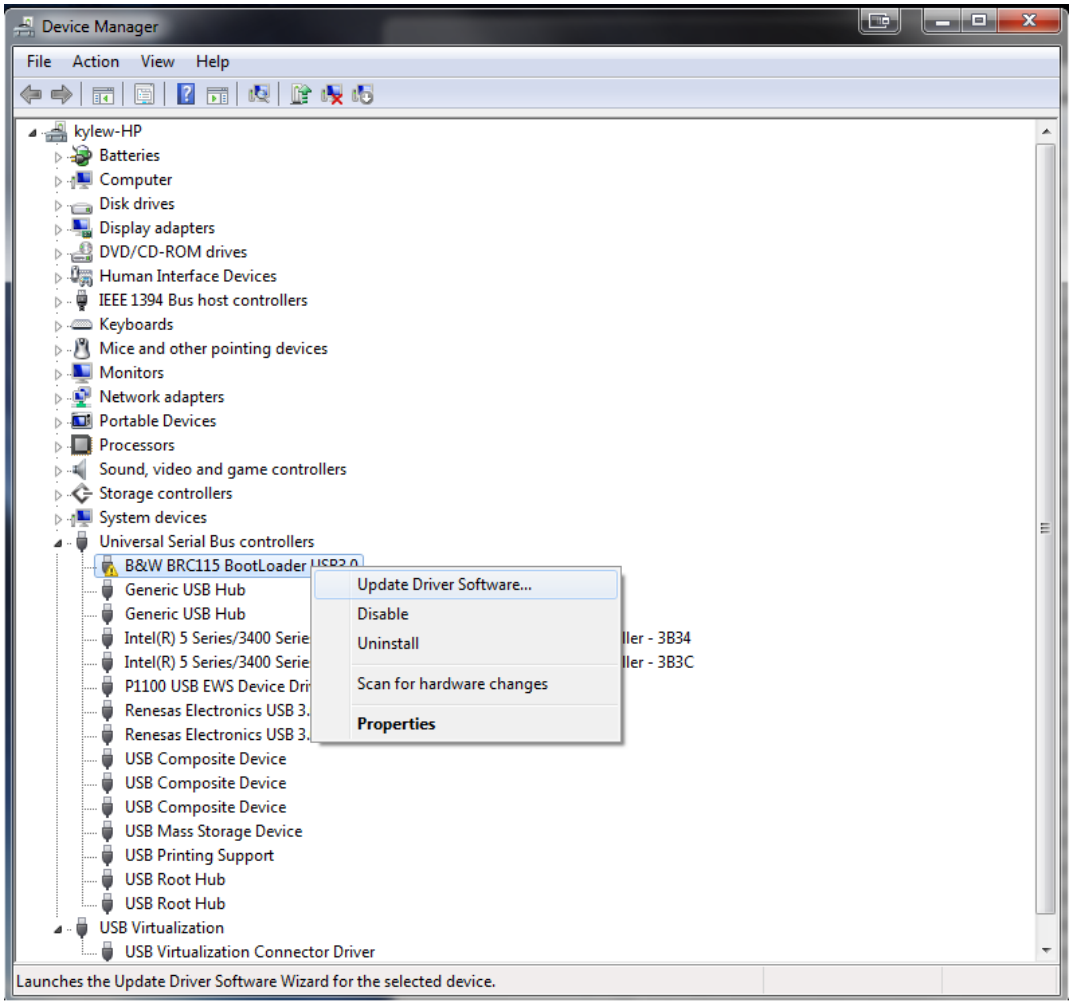
- You may also receive the following “Program Compatibility Assistant” message concerning an unsigned driver:


Program Compatibility Assistant
Windows requires a digitally signed driver
A recently installed program tried to install an unsigned driver. This version of Windows requires all drivers to have a valid digital signature. The driver is unavailable and the program that uses this driver might not work correctly.
Uninstall the program or device that uses this driver and check the publisher's support website to get a digitally signed driver.
Driver: Cypress Generic USB Device Driver-WDF
Service: Cypress Generic USB3.0 Driver
Publisher: Cypress Semiconductor
Location: C:\Windows\System32\...\cyusb3.sys
Close
What is a signed driver?

- Click Close

 Copyright 2013 B&W Tek, Inc.

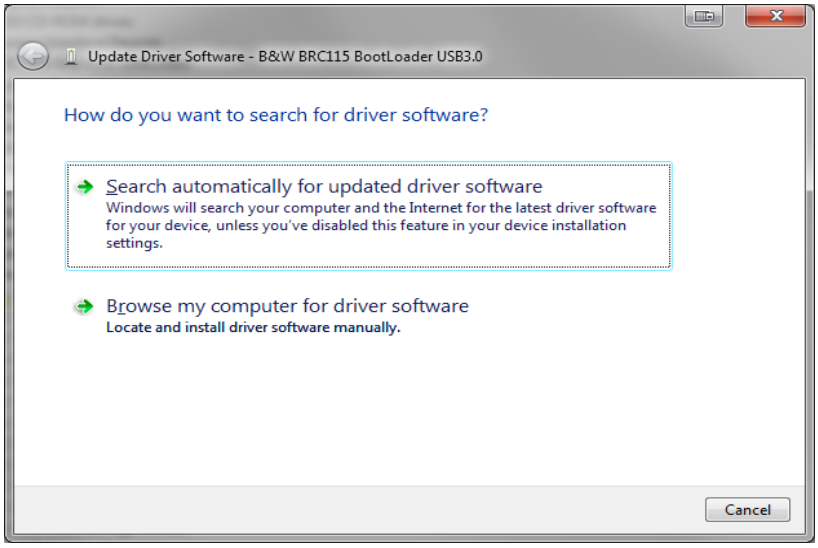
- Update Driver



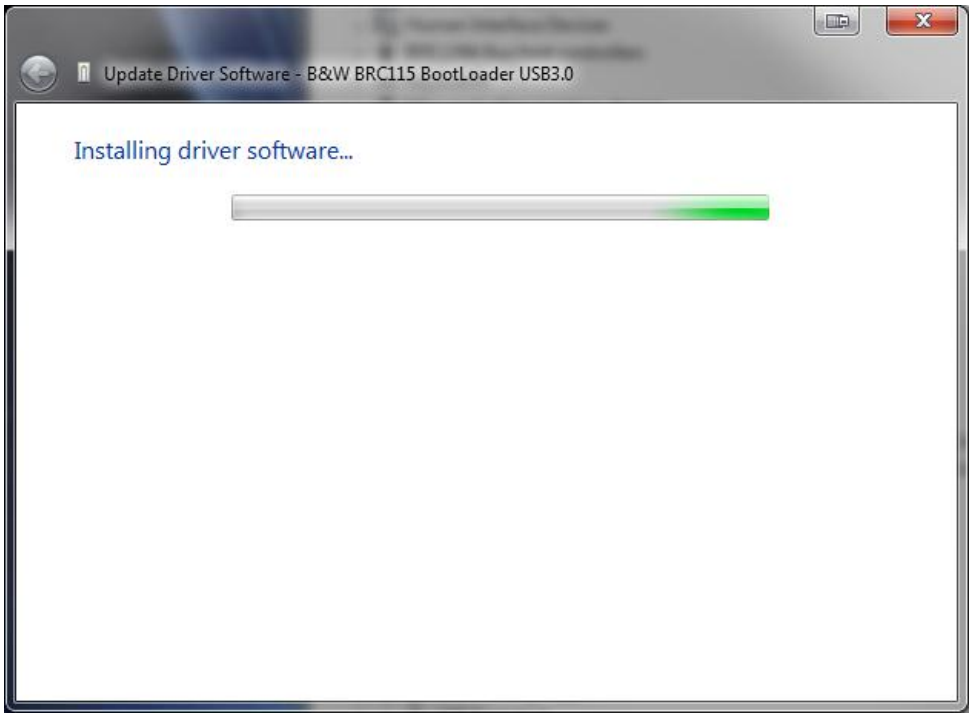
- Right Click on “B&W BRC115 BootLoader USB3.0” and select “Update Driver Software…”

 Copyright 2013 B&W Tek, Inc.

- Search Options:


Update Driver Software - B&W BRC115 BootLoader USB3.0
How do you want to search for driver software?
Search automatically for updated driver software
Windows will search your computer and the Internet for the latest driver software for your device, unless you've disabled this feature in your device installation settings.
Browse my computer for driver software
Locate and install driver software manually.
Cancel

- Select "Search automatically for updated driver software"



- Installation will begin

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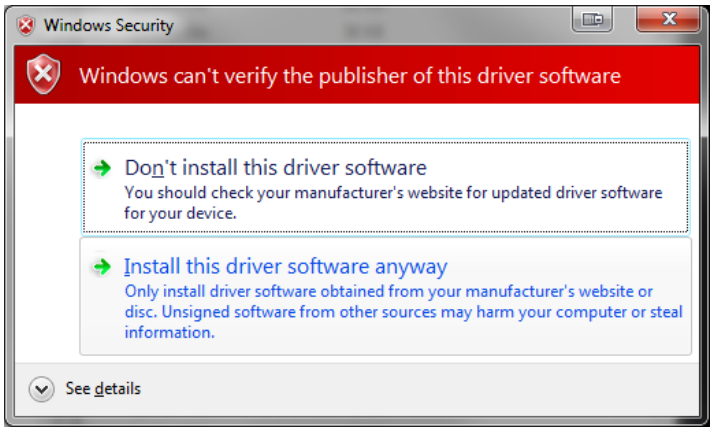
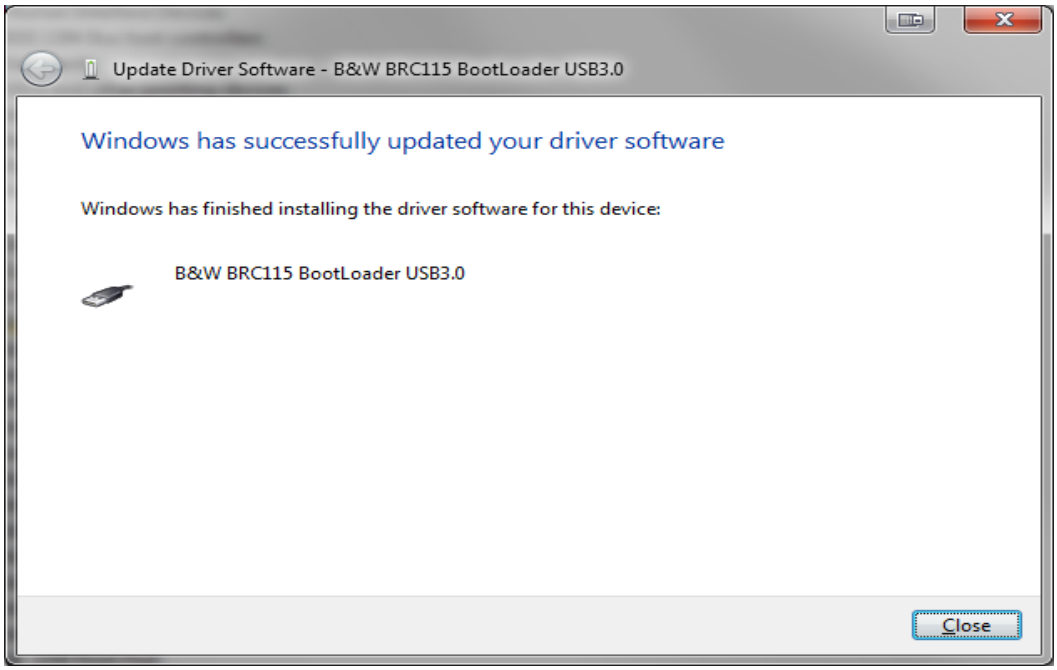
- **Windows Security Prompt:**


Windows Security
Windows can't verify the publisher of this driver software
Don't install this driver software
You should check your manufacturer's website for updated driver software for your device.
Install this driver software anyway
Only install driver software obtained from your manufacturer's website or disc. Unsigned software from other sources may harm your computer or steal information.
See details

- Select “Install this driver software anyway”

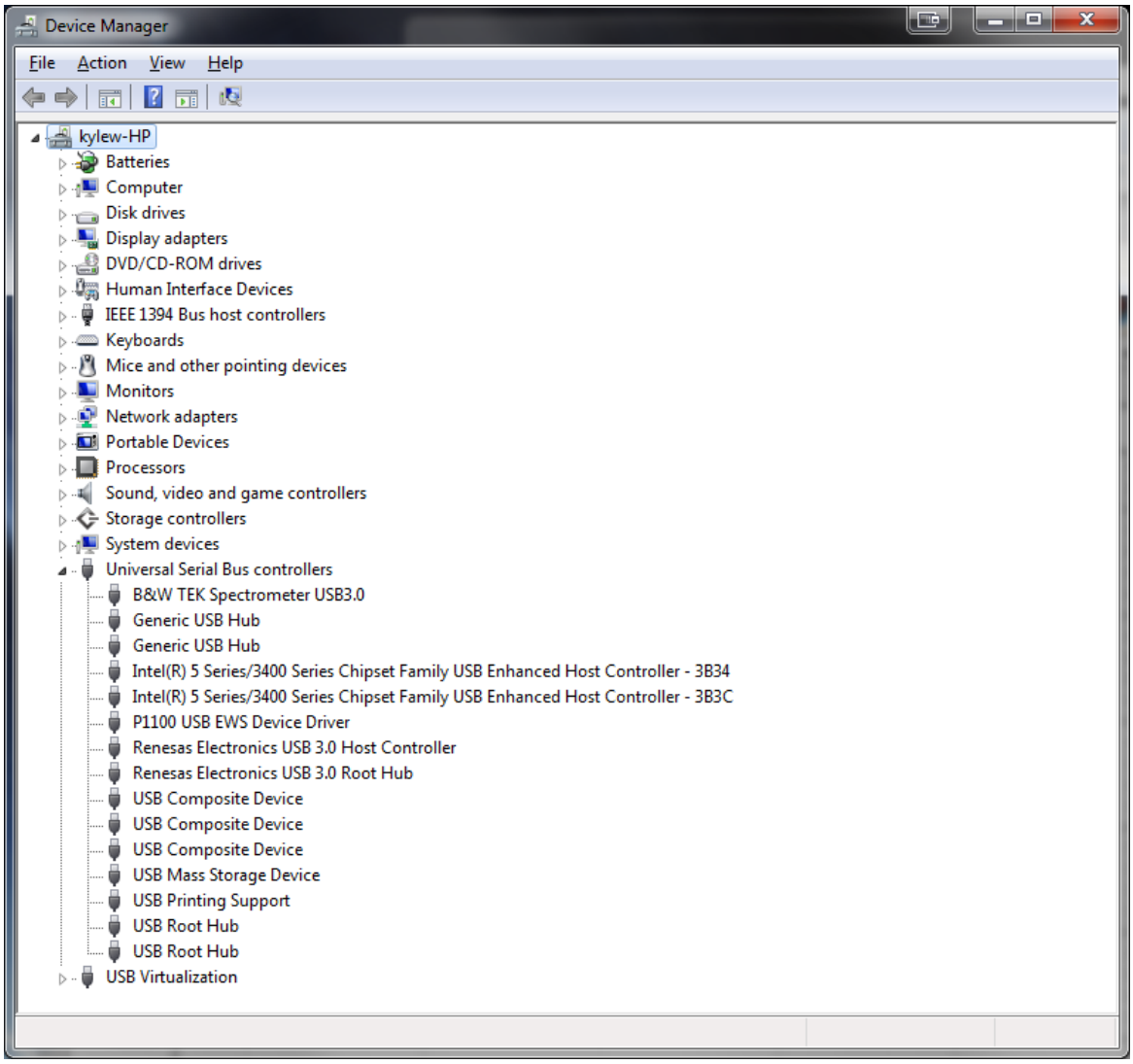
- Driver will install successfully.


Update Driver Software - B&W BRC115 BootLoader USB3.0
Windows has successfully updated your driver software
Windows has finished installing the driver software for this device:
B&W BRC115 BootLoader USB3.0
Close

.

- Click “Close”

 Copyright 2013 B&W Tek, Inc.



- B&W TEK Spectrometer USB3.0 will appear under USB Controllers.

You are now ready to Open BWSpec 4 and run the spectrometer

 Copyright 2013 B&W Tek, Inc.